

Supporting Documentation for California Air Resource Board's Miscellaneous Process
Methodology 7.5, Agricultural Harvesting Operations

Crop Emission Factor Assumption and PM10 Harvest Emission Factor

CDFA Commodity Code				
101999	WHEAT ALL	Wheat	Wheat/1	5.80
104999	RYE FOR GRAIN	Wheat	Wheat/1	5.80
106199	RICE, FOR MILLING	Rice	Cotton/2	1.68
106269	FIELD CROP BY PRODUCTS	Cotton	Cotton/20	0.17
108999	FOOD GRAINS, MISC	Corn	Cotton/2	1.68
111559	CORN, WHITE	Corn	Cotton/40	0.08
111991	CORN FOR GRAIN	Corn	Cotton/2	1.68
111992	CORN FOR SILAGE	Corn	Cotton/20	0.17
112999	OATS FOR GRAIN	Wheat	Wheat/1	5.80
113994	BARLEY, MALTING	Wheat	Wheat/1	5.80
113995	BARLEY, FEED	Wheat	Wheat/1	5.80
113999	BARLEY, UNSPECIFIED	Wheat	Wheat/1	5.80
114991	SORGHUM, GRAIN	Wheat	Wheat/1	5.80
114992	SORGHUM SILAGE	Wheat	Wheat/1	5.80
115991	TRITICALE	Wheat	Wheat/1	5.80
121219	COTTON LINT, UPLAND	Cotton	Cotton/1	3.37
121229	COTTON LINT, PIMA	Cotton	Cotton/1	3.37
121299	COTTON LINT, UNSPEC	Cotton	Cotton/1	3.37
132999	SUGAR BEETS	Sugar Beets	Cotton/2	1.68
151999	COTTONSEED	Cotton	Cotton/1	3.37
153999	PEANUTS, ALL	Safflower	Cotton/2	1.68
158269	SAFFLOWER	Safflower	Wheat/1	5.80
158316	SUNFLOWER SEED, PLANTING	Corn	Wheat/1	5.80
158319	SUNFLOWER SEED	Corn	Wheat/1	5.80
158499	JOJOBA	Melon	Cotton/40	0.08
161131	BEANS, LIMAS, LG. DRY	DryBeans	Cotton/2	1.68
161132	BEANS, LIMAS, BABY DRY	DryBeans	Cotton/2	1.68
161199	LIMA BEANS, UNSPECIFIED	DryBeans	Cotton/2	1.68
161717	BEANS, RED KIDNEY	DryBeans	Cotton/2	1.68
161721	BEANS, PINK	DryBeans	Cotton/2	1.68
161741	BEANS, BLACKEYE (PEAS)	DryBeans	Cotton/2	1.68
161742	BEANS, GARBANZO	Garbanzo	Cotton/2	1.68
162399	BEANS, FAVA	DryBeans	Cotton/2	1.68
163999	PEAS, DRY EDIBLE	DryBeans	Cotton/20	0.17
169999	BEANS, UNSPEC. DRY EDIBLE	DryBeans	Cotton/2	1.68
171019	SEED WHEAT	Wheat	Wheat/1	5.80
171049	SEED RYE	Wheat	Wheat/1	5.80
171069	SEED RICE	Rice	Cotton/2	1.68
171129	SEED OATS	Wheat	Wheat/1	5.80
171139	SEED BARLEY	Wheat	Wheat/1	5.80
171519	SEED, COTTON FOR PLANTING	Cotton	Cotton/1	3.37
171582	SEED, SAFFLOWER, PLANTING	Safflower	Wheat/1	5.80
171619	SEED BEANS	DryBeans	Cotton/2	1.68
171639	SEED PEAS	DryBeans	Cotton/20	0.17
171949	SEED, MISC FIELD CROP	Corn	Cotton/20	0.17
171959	SEED, VEG & VINECROP	Vegetables	Cotton/20	0.17
172119	SEED, ALFALFA	Alfalfa	Zero/1	0.00
172289	CLOVER, UNSPECIFIED SEED	Alfalfa	Zero/1	0.00
173079	SEED, BERMUDA GRASS	Alfalfa	Zero/1	0.00
173669	SEED, SUDAN GRASS	Alfalfa	Zero/1	0.00
173999	SEED, GRASS, UNSPECIFIED	Alfalfa	Zero/1	0.00
178999	SEED, OTHER (NO FLOWERS)	Alfalfa	Cotton/20	0.17
181999	HAY, ALFALFA	Alfalfa	Zero/1	0.00
188499	HAY, GRAIN	Alfalfa	Cotton/2	1.68
188799	HAY, WILD	Alfalfa	Cotton/2	1.68
188899	HAY, SUDAN	Alfalfa	Zero/1	0.00
188999	HAY, OTHER UNSPECIFIED	Alfalfa	Cotton/2	1.68
194599	PASTURE, IRRIGATED	No Land Prep.	Zero/1	0.00
194699	PASTURE, RANGE	No Land Prep.	Zero/1	0.00

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194799	PASTURE, MISC. FORAGE	No Land Prep.	Zero/1	0.00
195199	SILAGE	Wheat	Cotton/20	0.17
195299	HAY, GREEN CHOP	Alfalfa	Zero/1	0.00
195399	STRAW	Alfalfa	Wheat/1	5.80
198199	RICE, WILD	Rice	Cotton/2	1.68
198999	FIELD CROPS, UNSPEC.	Corn	Cotton/20	0.17
201119	ORANGES, NAVEL	Citrus	Cotton/40	0.08
201519	ORANGES, VALENCIAS	Citrus	Cotton/40	0.08
201999	ORANGES, UNSPECIFIED	Citrus	Cotton/40	0.08
202999	GRAPEFRUIT, ALL	Citrus	Cotton/40	0.08
203999	TANGERINES & MANDARINS	Citrus	Cotton/40	0.08
204999	LEMONS, ALL	Citrus	Cotton/40	0.08
205999	LIMES, ALL	Citrus	Cotton/40	0.08
206999	TANGELOS	Citrus	Cotton/40	0.08
207999	KUMQUATS	Citrus	Cotton/40	0.08
208059	CITRUS, MISC BY-PROD	Citrus	Cotton/40	0.08
209999	CITRUS, UNSPECIFIED	Citrus	Cotton/40	0.08
211999	APPLES, ALL	Citrus	Cotton/40	0.08
212199	PEACHES, FREESTONE	Citrus	Cotton/40	0.08
212399	PEACHES, CLINGSTONE	Citrus	Cotton/40	0.08
212999	PEACHES, UNSPECIFIED	Citrus	Cotton/40	0.08
213199	CHERRIES, SWEET	Citrus	Cotton/40	0.08
214199	PEARS, BARLETT	Citrus	Cotton/40	0.08
214899	PEARS, ASIAN	Citrus	Cotton/40	0.08
214999	PEARS, UNSPECIFIED	Citrus	Cotton/40	0.08
215199	PLUMS	Citrus	Cotton/40	0.08
215399	PLUMCOTS	Citrus	Cotton/40	0.08
215999	PRUNES, DRIED	Citrus	Cotton/40	0.08
216199	GRAPES, TABLE	Grapes-Table	Cotton/20	0.17
216299	GRAPES, WINE	Grapes-Wine	Cotton/20	0.17
216399	GRAPES, RAISIN	Grapes-Raisin	Cotton/20	0.17
216999	GRAPES, UNSPECIFIED	Grapes-Wine	Cotton/20	0.17
217999	APRICOTS, ALL	Citrus	Cotton/40	0.08
218199	NECTARINES	Citrus	Cotton/40	0.08
218299	PERSIMMONS	Citrus	Cotton/40	0.08
218399	POMEGRANATES	Citrus	Cotton/40	0.08
218499	QUINCE	Citrus	Cotton/40	0.08
218839	CHERIMOYAS	Citrus	Cotton/40	0.08
218889	ORCHARD BIOMASS	Almonds	Cotton/40	0.08
218899	FRUITS & NUTS, UNSPEC.	Citrus	Cotton/40	0.08
221999	AVOCADOS, ALL	Citrus	Cotton/40	0.08
224999	DATES	Citrus	Almonds/20	1.56
225999	FIGS, DRIED	Citrus	Almonds/20	1.56
226999	OLIVES	Citrus	Cotton/40	0.08
228019	GUAVAS	Citrus	Cotton/40	0.08
229999	KIWIFRUIT	Citrus	Cotton/40	0.08
230639	BERRIES, BLACKBERRIES	Grapes-Table	Cotton/40	0.08
230869	BERRIES, BOYSENBERRIES	Grapes-Table	Cotton/40	0.08
234799	BERRIES, LOGANBERRIES	Grapes-Table	Cotton/40	0.08
236199	BERRIES, RASPBERRIES	Grapes-Table	Cotton/40	0.08
237199	STRAWBERRIES, FRESH MKT	Melon	Cotton/40	0.08
237299	STRAWBERRIES, PROC	Melon	Cotton/40	0.08
237999	STRAWBERRIES, UNSPECIFIED	Melon	Cotton/40	0.08
238199	BERRIES BUEBERRIES	Grapes-Table	Cotton/40	0.08
239999	BUSHBERRIES UNSPECIFIED	Grapes-Table	Cotton/40	0.08
261999	ALMONDS, ALL	Almonds	Almonds/1	31.2
263999	WALNUTS, ENGLISH	Almonds	Almonds/1	31.2
264999	PECANS	Almonds	Almonds/10	3.12
265999	WALNUTS, BLACK	Almonds	Almonds/1	31.2
266999	CHESTNUTS	Almonds	Almonds/10	3.12
267999	MACADAMIA NUT	Almonds	Almonds/10	3.12

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268079	PISTACHIOS	Almonds	Almonds/10	3.12
268099	ALMOND HULLS	Almonds	Almonds/1	31.2
301999	ARTICHOKES	Melon	Cotton/40	0.08
302199	ASPARAGUS, FRESH MKT	Melon	Cotton/2	1.68
302299	ASPARAGUS, PROC	Melon	Cotton/2	1.68
302999	ASPARAGUS, UNSPECIFIED	Melon	Cotton/2	1.68
303999	BEANS, GREEN LIMAS	DryBeans	Cotton/2	1.68
304199	BEANS, SNAP FR MKT	DryBeans	Cotton/20	0.17
304299	BEANS, SNAP PROC	DryBeans	Cotton/20	0.17
304399	BEANS FRESH UNSPECIFIED	DryBeans	Cotton/20	0.17
304999	BEANS, UNSPECIFIED SNAP	DryBeans	Cotton/20	0.17
305999	BEETS, GARDEN	Sugar Beets	Cotton/2	1.68
306999	RAPINI	Sugar Beets	Cotton/40	0.08
307189	BROCCOLI,FOOD SERV	Vegetables	Cotton/40	0.08
307199	BROCCOLI, FR MKT	Vegetables	Cotton/40	0.08
307299	BROCCOLI, PROC	Vegetables	Cotton/40	0.08
307919	BROCCOLI, UNSPECIFIED	Vegetables	Cotton/40	0.08
308999	BRUSSELS SPROUTS	Melon	Cotton/40	0.08
309999	CABBAGE, CH. & SPECIALTY	Lettuce	Cotton/40	0.08
310999	CABBAGE, HEAD	Lettuce	Cotton/40	0.08
313189	CARROTS, FOOD SERV	Sugar Beets	Cotton/20	0.17
313199	CARROTS, FR MKT	Sugar Beets	Cotton/20	0.17
313299	CARROTS, PROC	Sugar Beets	Cotton/20	0.17
313999	CARROTS, UNSPECIFIED	Sugar Beets	Cotton/20	0.17
314189	CAULIFLOWER, FOOD SERV	Vegetables	Cotton/40	0.08
314199	CAULIFLOWER, FR MKT	Vegetables	Cotton/40	0.08
314299	CAULIFLOWER, PROC	Vegetables	Cotton/40	0.08
314999	CAULIFLOWER, UNSPECIFIED	Vegetables	Cotton/40	0.08
316189	CELERY, FOOD SERV	Lettuce	Cotton/40	0.08
316199	CELERY, FR MKT	Lettuce	Cotton/40	0.08
316299	CELERY, PROC	Lettuce	Cotton/40	0.08
316999	CELERY, UNSPECIFIED	Lettuce	Cotton/40	0.08
318999	RADICCHIO	Lettuce	Cotton/40	0.08
320999	CHIVES	Lettuce	Cotton/40	0.08
322999	COLLARD GREENS	Lettuce	Cotton/40	0.08
323999	CORN, SWEET ALL	Corn	Cotton/40	0.08
325999	CUCUMBERS	Vegetables	Cotton/40	0.08
330999	EGGPLANT, ALL	Vegetables	Cotton/40	0.08
331999	ENDIVE, ALL	Lettuce	Cotton/40	0.08
332999	ESCAROLE, ALL	Lettuce	Cotton/40	0.08
333999	ANISE (FENNEL)	Lettuce	Cotton/2	1.68
335999	GARLIC, ALL	Garlic	Cotton/2	1.68
337999	KALE	Lettuce	Cotton/40	0.08
338999	KOHLRABI	Lettuce	Cotton/40	0.08
339196	LETTUCE, BULK SALAD PRODS.	Lettuce	Cotton/40	0.08
339999	LETTUCE, UNSPECIFIED	Lettuce	Cotton/40	0.08
340999	LETTUCE, HEAD	Lettuce	Cotton/40	0.08
341999	LETTUCE, ROMAINE	Lettuce	Cotton/40	0.08
342999	LETTUCE, LEAF	Lettuce	Cotton/40	0.08
343999	MELON, CANTALOUPE	Melon	Cotton/40	0.08
348999	MELON, HONEYDEW	Melon	Cotton/40	0.08
354299	MELON, UNSPECIFIED	Melon	Cotton/40	0.08
354999	MELON, WATER MELONS	Melon	Cotton/40	0.08
355999	MUSHROOMS	No Land Prep.	Zero/1	0.00
356999	MUSTARD	Lettuce	Cotton/40	0.08
357999	OKRA	Lettuce	Cotton/40	0.08
358999	ONIONS	Onions	Cotton/2	1.68
359999	PARSLEY	Lettuce	Cotton/40	0.08
361299	PEAS, GREEN, PROCESSING	DryBeans	Cotton/20	0.17
361999	PEAS, GREEN, UNSPECIFIED	DryBeans	Cotton/20	0.17

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CDFA Commodity Code	CDFA Crop Description	ARB Crop Profile	Assumption	Harvest EF (lbs PM10/acre/year)
363999	PEPPERS, BELL	Tomatoes	Cotton/40	0.08
364999	PEPPERS, CHILI, HOT	Tomatoes	Cotton/40	0.08
366999	PUMPKINS	Melon	Cotton/20	0.17
367999	RADISHES	Sugar Beets	Cotton/40	0.08
368999	RHUBARB	Lettuce	Cotton/40	0.08
370999	RUTABAGAS	Sugar Beets	Cotton/2	1.68
372999	ONIONS, GREEN & SHALLOTS	Onions	Cotton/40	0.08
374189	SPINACH, FOOD SERV	Lettuce	Cotton/40	0.08
374199	SPINACH, FR MKT	Lettuce	Cotton/40	0.08
374299	SPINACH, PROC	Lettuce	Cotton/40	0.08
374999	SPINACH UNSPECIFIED	Lettuce	Cotton/40	0.08
375999	SQUASH	Melon	Cotton/20	0.17
376999	SWISSCHARD	Lettuce	Cotton/40	0.08
378199	TOMATOES, FRESH MARKET	Tomatoes	Cotton/40	0.08
378299	TOMATOES, PROCESSING	Tomatoes	Cotton/20	0.17
378999	TOMATOES, UNSPECIFIED	Tomatoes	Cotton/20	0.17
380999	TURNIPS, ALL	Sugar Beets	Cotton/2	1.68
381999	GREENS, TURNIP & MUSTARD	Lettuce	Cotton/40	0.08
387999	LEEKs	Onions	Cotton/40	0.08
391999	POTATOES, IRISH ALL	Sugar Beets	Cotton/2	1.68
392999	SWEET POTATOES	Sugar Beets	Cotton/2	1.68
393999	HORSERADISH	Onions	Cotton/40	0.08
394199	SALAD GREENS NEC	Lettuce	Cotton/40	0.08
394999	PEAS, EDIBLE POD (SNOW)	DryBeans	Cotton/20	0.17
395999	VEGETABLES, ORIENTAL, ALL	Vegetables	Cotton/40	0.08
396999	SPROUTS, ALFALFA & BEAN	Lettuce	Cotton/40	0.08
398199	CUCUMBERS, GREENHOUSE	No Land Prep.	Zero/1	0.00
398299	TOMATOES, GREENHOUSE	No Land Prep.	Zero/1	0.00
398399	TOMATOES, CHERRY	Tomatoes	Cotton/40	0.08
398499	TOMATILLO	Tomatoes	Cotton/40	0.08
398559	CILANTRO	Lettuce	Cotton/40	0.08
398599	SPICES AND HERBS	Lettuce	Cotton/40	0.08
398899	VEGETABLES, BABY	Vegetables	Cotton/40	0.08
398999	VEGETABLES, UNSPECIFIED	Vegetables	Cotton/20	0.17
832919	POTATOES SEED	Sugar Beets	Cotton/2	1.68
892999	NURSERY TURF	No Land Prep.	Zero/1	0.00