

QUGA Mix 1 Mesic Wet

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

		Seed Mix	327 Minimum Requirements Seeds/ft ²			
			Native Grass and Forb Seedings		Pollinator Seedings	
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater
Total Grasses		12.97	10	20	5	10
Total Forbs & Legumes		7.05	5	5	15	30
Total Grasses, Forbs/Legumes		20.02	20	30	20	40

Native Plant Species

			Input Amount				
			in Mix	Seeds Per			
Grasses ,rushes, and sedges:	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>	<u>Moisture Regime</u>	
	Big bluestem	Andropogon gerardi	130000	0.91	2.72	D,DM,M,WM	
	Beaked panicgrass	Panicum anceps	525000	0.31	3.74	WM, W	
	Switchgrass	Panicum virgatum	400000	0.56	5.14	D,DM,M,WM	
	Virginia wildrye (cool season)	Elymus virginicus	75000	0.8	1.38	WM,W	
Forbs:	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>(Lbs. or Oz.)</u>		<u>Per</u>	<u>Moisture Regime</u>
				<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	
	Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM
	Brown-eyed Susan	Rudbeckia triloba	35000	0.02		0.26	DM,M,WM
	Ox-Eye or False sunflower	Heliopsis helianthoides	6500	0.15		0.36	DM,M,WM
	Partridge Pea	Chamaecrista fasciculata	3100	0.25		0.28	D,DM,M
	Seedbox	Ludwigia alternifolia	1300000	0.008		3.82	M,WM,W
	Sunflower, Sawtooth	Helianthus grosseserratus	12500	0.035		0.16	M.WM,W

QUGA Mix 2 HEL Dry - Wet Mesic

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

		Seed Mix	327 Minimum Requirements Seeds/ft ²			
			Native Grass and Forb Seedings		Pollinator Seedings	
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater
Total Grasses		21.85	10	20	5	10
Total Forbs & Legumes		8.16	5	5	15	30
Total Grasses, Forbs/Legumes		30.01	20	30	20	40

Native Plant Species

			Input Amount				
			in Mix	Seeds Per			
Grasses ,rushes, and sedges:	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>	<u>Moisture Regime</u>	
	Big bluestem	Andropogon gerardi	130000	0.65	1.94	D,DM,M,WM	
	Beaked panicgrass	Panicum anceps	525000	0.279	3.36	WM, W	
	Composite Dropseed	Sporobolus compositus (S. asper)	480000	0.53	5.84	D, DM, M	
	Indiangrass	Sorghastrum nutans	170000	0.415	1.62	D,DM,M	
	Little bluestem	Schizachyrium scoparium	255000	1.128	6.60	D,DM,M	
	Sideoats grama	Bouteloua curtipendula	190000	0.57	2.49	D,DM	
Forbs:			(Lbs. or Oz.)		Forbs Per		
	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	<u>Moisture Regime</u>
	Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM
	Evening primrose	Oenothera biennis	86000	0.08		2.53	D,DM,M
	Illinois Bundleflower	Desmanthus illinoensis	3800	0.41		0.57	D,DM
	Lance leaf coreopsis	Coreopsis lanceolata	20000	0.25		1.84	D,DM
	Ox-Eye or False sunflower	Heliopsis helianthoides	6500	0.07		0.17	DM,M,WM
	Partridge Pea	Chamaecrista fasciculata	3100	0.25		0.28	D,DM,M
	Purple coneflower	Echinacea purpurea	6600	0.25		0.61	DM,M,WM

QUGA Mix 3 Dry - Mesic

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

		Seed Mix	327 Minimum Requirements Seeds/ft ²			
			Native Grass and Forb Seedings		Pollinator Seedings	
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater
Total Grasses		11.20	10	20	5	10
Total Forbs & Legumes		8.80	5	5	15	30
Total Grasses, Forbs/Legumes		20.00	20	30	20	40

Native Plant Species

			Input Amount				
			in Mix	Seeds Per			
Grasses ,rushes, and sedges:	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>	<u>Moisture Regime</u>	
	Composite Dropseed	Sporobolus compositus (S. asper)	480000	0.4	4.41	D, DM, M	
	Little bluestem	Schizachyrium scoparium	255000	0.75	4.39	D,DM,M	
	Sideoats grama	Bouteloua curtipendula	190000	0.55	2.40	D,DM	
Forbs:			(Lbs. or Oz.)		Forbs Per		
	<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	<u>Moisture Regime</u>
	Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM
	Evening primrose	Oenothera biennis	86000	0.085		2.69	D,DM,M
	Illinois Bundlesflower	Desmanthus illinoensis	3800	0.255		0.36	D,DM
	Lance leaf coreopsis	Coreopsis lanceolata	20000	0.36		2.64	D,DM
	Partridge Pea	Chamaecrista fasciculata	3100	0.3		0.34	D,DM,M
	Purple coneflower	Echinacea purpurea	6600	0.25		0.61	DM,M,WM

QUGA Mix 4 Tall Dry - Mesic

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

		Seed Mix	327 Minimum Requirements Seeds/ft²			
			Native Grass and Forb Seedings		Pollinator Seedings	
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater
Total Grasses		12.12	10	20	5	10
Total Forbs & Legumes		7.89	5	5	15	30
Total Grasses, Forbs/Legumes		20.02	20	30	20	40

Native Plant Species

			Input Amount			
			in Mix	Seeds Per		
Grasses ,rushes, and sedges:						
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>		<u>Moisture Regime</u>
Big bluestem	Andropogon gerardi	130000	0.74	2.21		D,DM,M,WM
Composite Dropseed	Sporobolus compositus (S. asper)	480000	0.265	2.92		D, DM, M
Indiangrass	Sorghastrum nutans	170000	0.415	1.62		D,DM,M
Little bluestem	Schizachyrium scoparium	255000	0.65	3.81		D,DM,M
Sideoats grama	Bouteloua curtipendula	190000	0.36	1.57		D,DM
					Forbs	
Forbs:			(Lbs. or Oz.)		Per	
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	<u>Moisture Regime</u>
Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM
Evening primrose	Oenothera biennis	86000	0.076		2.40	D,DM,M
Illinois Bundleflower	Desmanthus illinoensis	3800	0.41		0.57	D,DM
Lance leaf coreopsis	Coreopsis lanceolata	20000	0.25		1.84	D,DM
Ox-Eye or False sunflower	Heliopsis helianthoides	6500	0.065		0.16	DM,M,WM
Partridge Pea	Chamaecrista fasciculata	3100	0.24		0.27	D,DM,M
Purple coneflower	Echinacea purpurea	6600	0.2		0.48	DM,M,WM

QUGA Mix 5A

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

			327 Minimum Requirements Seeds/ft ²				
		Seed Mix	Native Grass and Forb Seedings		Pollinator Seedings		
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater	
Total Grasses		5.00	10	20	5	10	
Total Forbs & Legumes		15.00	5	5	15	30	
Total Grasses, Forbs/Legumes		20.00	20	30	20	40	

Native Plant Species

			Input Amount							
			in Mix	Seeds Per						
Grasses ,rushes, and sedges:			Common Name	Scientific Name	Seeds/lb.	(PLS lb/ac)	Sq.Ft.	Moisture Regime		
			Composite Dropseed	Sporobolus compositus (S. asper)	480000	0.14	1.54	D, DM, M		
			Little bluestem	Schizachyrium scoparium	255000	0.39	2.28	D,DM,M		
			Sideoats grama	Bouteloua curtipendula	190000	0.27	1.18	D,DM		
							Forbs			
Forbs:						(Lbs. or Oz.)	Per			
			Common Name	Scientific Name	Seeds/Oz	Lbs.	Oz.	Sq. Ft.	Moisture Regime	Bloom Period
			Aster, New England	Symphyotrichum novae-angliae	66000	0.013		0.32	M,WM	L
			Aster, Smooth blue	Symphyotrichum laeve	50000	0.017		0.31	DM,M,WM	L
			Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM	
			Brown-eyed Susan	Rudbeckia triloba	35000	0.025		0.32	DM,M,WM	
			Evening primrose	Oenothera biennis	86000	0.085		2.69	D,DM,M	
			Feverfew-Wild quinine	Parthenium integrifolium	7000	0.01		0.03	DM,M,WM	
			Foxglove Beardtongue	Penstemon digitalis	130000	0.02		0.96	DM,M,WM	E-M
			Goldenrod, Rigid or stiff	Solidago rigida	41000	0.02		0.30	D,DM,M,WM	L
			Grayheaded Coneflower	Ratibida pinnata	39000	0.021		0.30	D,DM,M,WM	
			Hoary vervain	Verbena stricta	33400	0.01		0.12	D,DM	

QUGA Mix 5A Continued

Illinois Bundleflower	Desmanthus illinoensis	3800	0.255		0.36	D,DM	
Lance leaf coreopsis	Coreopsis lanceolata	20000	0.42		3.09	D,DM	
Milk vetch	Astragalus canadensis	15600	0.08		0.46	D,DM,M	
Milkweed, Butterfly	Asclepias tuberosa	4300	0.02		0.03	DM,M	M-L
Milkweed, Common	Asclepias syriaca	4000	0.02		0.03	D,DM,M,WM	M-L
Ox-Eye or False sunflower	Heliopsis helianthoides	6500	0.1		0.24	DM,M,WM	
Partridge Pea	Chamaecrista fasciculata	3100	0.36		0.41	D,DM,M	M-L
Prairie cinquefoil (potentilla)	Potentilla arguta	230000	0.008		0.68	D,DM,M	
Purple coneflower	Echinacea purpurea	6600	0.25		0.61	DM,M,WM	M-L
Purple Prairie Clover	Dalea purpureum	17000	0.09		0.56	D,DM,M	M-L
Rattlesnake Master	Eryngium yuccifolium	7000	0.01		0.03	DM,M,WM	M-L
Roundhead lespedeza	Lespedeza capitata	8000	0.01		0.03	D,DM,M	M-L
Spiderwort	Tradescantia ohiensis	8000	0.01		0.03	D,DM,M	E-M
Wild bergamot or Bee balm	Monarda fistulosa	75000	0.03		0.83	D,DM,M	E-M
Wild Lupine	Lupinus perennis	1400	0.25		0.13	D,DM,M	E-M
<u>Pollinator Blooming Period</u>		Moisture Regime		Soil Drainage Class			
E =Early Bloom Period- <i>April through Mid June</i>		D=Dry		excessively drained			
M =Mid Bloom Period- <i>Mid June through July</i>		DM=Dry Mesic		moderately well drained			
L =Late Bloom Period- <i>August through October</i>		M=Mesic		well drained			
E-M =Species bloom period overlaps early and mid		WM=Wet Mesic		somewhat poorly drained,			
M-L =Species bloom period overlaps mid and late		W=Wet		very poorly drained, poorly drained			

QUGA Mix 5B

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

		Seed Mix	327 Minimum Requirements Seeds/ft²				
			Native Grass and Forb Seedings		Pollinator Seedings		
		Totals	slopes less than 5%	slopes 5% or greater	slopes less than	slopes 5% or greater	
Total Grasses		5.00	10	20	5	10	
Total Forbs & Legumes		15.02	5	5	15	30	
Total Grasses, Forbs/Legumes		20.02	20	30	20	40	

Native Plant Species

			Input Amount				
			in Mix	Seeds Per			
Grasses ,rushes, and sedges:							
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>		<u>Moisture Regime</u>	
Beaked panicgrass	Panicum anceps	525000	0.298	3.59		WM, W	
Fowl Mannagrass	Glyceria striata	1600000	0.019	0.70		M,WM,W	
Virginia wildrye (cool season)	Elymus virginicus	75000	0.413	0.71		WM,W	
					Forbs		
Forbs:			(Lbs. or Oz.)	Per			
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	<u>Moisture Regime</u>	<u>Bloom Period</u>
Aster, New England	Symphotrichum novae-angliae	66000	0.013		0.32	M,WM	L
Aster, Smooth blue	Symphotrichum laeve	50000	0.01		0.18	DM,M,WM	L
Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM	
Blazingstar, Marsh	Liatris spicata	11000	0.063		0.25	M,WM,W	M-L
Blue vervain	Verbena hastata	93000	0.019		0.65	M,WM,W	
Boneset	Eupatorium perfoliatum	160000	0.02		1.18	WM,W	L
Brown-eyed Susan	Rudbeckia triloba	35000	0.015		0.19	DM,M,WM	
Foxglove Beardtongue	Penstemon digitalis	130000	0.02		0.96	DM,M,WM	E-M
Golden alexanders	Zizia aurea	12000	0.067		0.30	M,WM	E-M
Goldenrod, Rigid or stiff	Solidago rigida	41000	0.01		0.15	D,DM,M,WM	L

QUGA Mix 5B Continued

Milkweed, Common	Asclepias syriaca	4000	0.02		0.03	D,DM,M,WM	M-L
Milkweed, Swamp	Asclepias incarnata	4300	0.015		0.02	M,WM,W	M-L
Ox-Eye or False sunflower	Helianthus helianthoides	6500	0.065		0.16	DM,M,WM	
Partridge Pea	Chamaecrista fasciculata	3100	0.25		0.28	D,DM,M	M-L
Prairie cinquefoil (potentilla)	Potentilla arguta	230000	0.007		0.59	D,DM,M	
Purple coneflower	Echinacea purpurea	6600	0.235		0.57	DM,M,WM	M-L
Purple Prairie Clover	Dalea purpureum	17000	0.1		0.62	D,DM,M	M-L
Seedbox	Ludwigia alternifolia	1300000	0.009		4.30	M,WM,W	M-L
Sneezeweed	Helenium autumnale	140000	0.02		1.03	WM,W	L
Sunflower, Sawtooth	Helianthus grosseserratus	12500	0.035		0.16	M,WM,W	M-L
Tick-trefoil, showy	Desmodium canadense	5500	0.045		0.09	DM,M,WM	M-L
Wild bergamot or Bee balm	Monarda fistulosa	75000	0.03		0.83	D,DM,M	E-M
<u>Pollinator Blooming Period</u>		Moisture Regime		Soil Drainage Class			
E =Early Bloom Period- <i>April through Mid June</i>		D=Dry		excessively drained			
M =Mid Bloom Period- <i>Mid June through July</i>		DM=Dry Mesic		moderately well drained			
L =Late Bloom Period- <i>August through October</i>		M=Mesic		well drained			
E-M =Species bloom period overlaps early and mid		WM=Wet Mesic		somewhat poorly drained,			
M-L =Species bloom period overlaps mid and late		W=Wet		very poorly drained, poorly drained			

Updated: 10/1/2017

QUGA Mix 5C

Calculations To Determine if a Seed Mix Meets 327-Conservation Cover Standard

			327 Minimum Requirements Seeds/ft ²				
	Seed Mix		Native Grass and Forb Seedings		Pollinator Seedings		
	Totals		slopes less than 5%	slopes 5% or greater	slopes less than 5%	slopes 5% or greater	
Total Grasses	10.00		10	20	5	10	
Total Forbs & Legumes	30.09		5	5	15	30	
Total Grasses, Forbs/Legumes	40.09		20	30	20	40	

Native Plant Species

		Input Amount					
Grasses ,rushes, and sedges:		in Mix	Seeds Per				
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/lb.</u>	<u>(PLS lb/ac)</u>	<u>Sq.Ft.</u>			<u>Moisture Regime</u>
Beaked panicgrass	Panicum anceps	525000	0.279	3.36			WM, W
Composite Dropseed	Sporobolus compositus (S. asper)	480000	0.165	1.82			D, DM, M
Little bluestem	Schizachyrium scoparium	255000	0.5	2.93			D,DM,M
Sideoats grama	Bouteloua curtipendula	190000	0.27	1.18			D,DM
Virginia wildrye (cool season)	Elymus virginicus	75000	0.415	0.71			WM,W
					Forbs		
Forbs:		(Lbs. or Oz.)			Per		
<u>Common Name</u>	<u>Scientific Name</u>	<u>Seeds/Oz</u>	<u>Lbs.</u>	<u>Oz.</u>	<u>Sq. Ft.</u>	<u>Moisture Regime</u>	<u>Bloom Period</u>
Aster, New England	Symphotrichum novae-angliae	66000	0.013		0.32	M,WM	L
Aster, Smooth blue	Symphotrichum laeve	50000	0.01		0.18	DM,M,WM	L
Black-eyed Susan	Rudbeckia hirta	93750	0.063		2.17	D,DM,M,WM	
Blazingstar, Marsh	Liatris spicata	11000	0.063		0.25	M,WM,W	M-L
Blue vervain	Verbena hastata	93000	0.02		0.68	M,WM,W	
Boneset	Eupatorium perfoliatum	160000	0.02		1.18	WM,W	L
Brown-eyed Susan	Rudbeckia triloba	35000	0.023		0.30	DM,M,WM	

QUGA Mix 5C Continued

Evening primrose	Oenothera biennis	86000	0.085		2.69	D,DM,M	
Foxglove Beardtongue	Penstemon digitalis	130000	0.02		0.96	DM,M,WM	E-M
Golden alexanders	Zizia aurea	12000	0.067		0.30	M,WM	E-M
Goldenrod, Rigid or stiff	Solidago rigida	41000	0.01		0.15	D,DM,M,WM	L
Illinois Bundleflower	Desmanthus illinoensis	3800	0.41		0.57	D,DM	
Lance leaf coreopsis	Coreopsis lanceolata	20000	0.25		1.84	D,DM	
Milkweed, Common	Asclepias syriaca	4000	0.02		0.03	D,DM,M,WM	M-L
Milkweed, Swamp	Asclepias incarnata	4300	0.015		0.02	M,WM,W	M-L
Ox-Eye or False sunflower	Heliopsis helianthoides	6500	0.065		0.16	DM,M,WM	
Partridge Pea	Chamaecrista fasciculata	3100	0.5		0.57	D,DM,M	M-L
Prairie cinquefoil (potentilla)	Potentilla arguta	230000	0.007		0.59	D,DM,M	
Purple coneflower	Echinacea purpurea	6600	0.24		0.58	DM,M,WM	M-L
Purple Prairie Clover	Dalea purpureum	17000	0.1		0.62	D,DM,M	M-L
Seedbox	Ludwigia alternifolia	1300000	0.029		13.85	M,WM,W	M-L
Sneezeweed	Helenium autumnale	140000	0.019		0.98	WM,W	L
Sunflower, Sawtooth	Helianthus grosseserratus	12500	0.035		0.16	M.WM,W	M-L
Tick-trefoil, showy	Desmodium canadense	5500	0.063		0.13	DM,M,WM	M-L
Wild bergamot or Bee balm	Monarda fistulosa	75000	0.03		0.83	D,DM,M	E-M
Pollinator Blooming Period				Moisture Regime		Soil Drainage Class	
E =Early Bloom Period- <i>April through Mid June</i>				D=Dry		excessively drained	
M =Mid Bloom Period- <i>Mid June through July</i>				DM=Dry Mesic		moderately well drained	
L =Late Bloom Period- <i>August through October</i>				M=Mesic		well drained	
E-M =Species bloom period overlaps early and mid				WM=Wet Mesic		somewhat poorly drained,	
M-L =Species bloom period overlaps mid and late				W=Wet		very poorly drained, poorly drained	