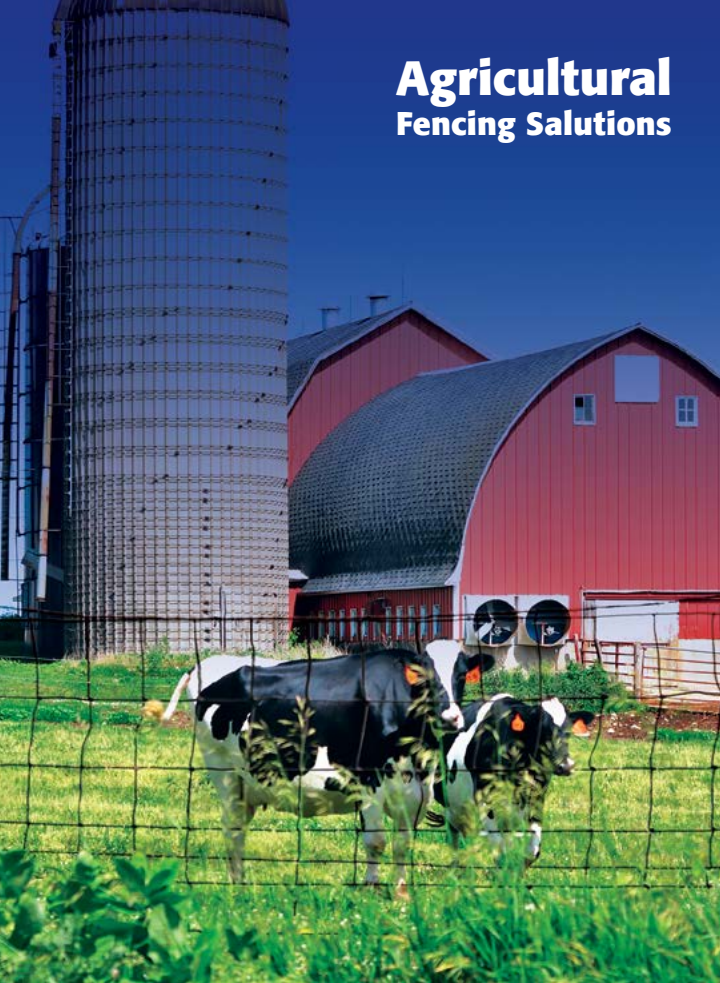


Agricultural Fencing Solutions



**MASTER
HALCO[®]**

**Chain Link | Ornamental | Vinyl | Wood
Temp Fence Access Control | Custom Gates
Agricultural**

MASTER HALCO,

For all your fencing needs

Since 1961, Master Halco has been North America's leading manufacturer and wholesale distributor of perimeter security and fencing. Having 53 locations throughout the United States and Canada allows us to provide you with local inventory and service. Being local allows us to offer quick, dependable deliveries of a broad mix of fencing products. And with us being near by, we can help you manage your inventory by ordering what you need when you need it. Our full line of products includes agricultural, vinyl, wood ornamental and chain link fences and gates for residential, commercial, industrial and high security applications.

OUR LOCATIONS



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Agricultural Fencing Introduction

Good fencing presents barriers to restrict animal movement or mark boundary lines. Barriers can be physical, psychological or a combination of both. Physical barriers consist of enough materials of sufficient strength to prevent or discourage animals from going over, under, or through fences. Psychological barriers utilize negative reinforcement to discourage animals from challenging a physical barrier of inferior strength. Traditional livestock fencing materials include barbed, woven, mesh, and electrified wire or combinations of these materials.

The type of fencing needed for livestock confinement depends on several factors including animal species, age, breed and production system. Beef cattle on a controlled grazing system have different fencing needs than horses on a recreational pasture. Permanent boundary or division fences require different fencing materials than fences for temporary paddocks. Fencing type and materials influence the cost, lifespan, and function of the fencing system.

Fence Types



CATTLE



Barbed wire and woven wire fences have traditionally been used for cattle. Four or five-strand barbed wire fences are adequate for cattle. Heavyweight and extra heavyweight woven wire fences with one or more strands of barbed wire above the fence are excellent for cattle. Heavy wire panel fences are highly recommended for cattle-handling facilities. Fence height should be at least 60 inches to prevent escape. Fences should also be clearly visible to reduce stress on the animal and to enhance movement through the facility.



HORSES



Visibility is the most important characteristic of horse fencing. Poorly visible fences such as high-tensile and barbed wire fences should not be used with horses; the animals could incur severe injuries if they become entangled in fence wires. "S" or Square Knot Horse Fence is highly recommended for horses.

Woven wire fencing with openings less than 4 inches are suitable for horses. A single one inch x six inch board is recommended to be placed at the top of the fence to increase visibility.



SHEEP AND GOATS



Barbed wire fences have typically been used for sheep and goats. However, these fences are not recommended for sheep since barbs pull the fleece. Furthermore, barbed wire fences do not effectively confine goats if moderate grazing pressure is applied to the fenced-in area. Heavyweight or extra-heavyweight woven wire fences are excellent for non-horned sheep and goats. Fence height should be at least 39 inches to prevent animals from climbing over the fence and may need to be higher depending on the breed to be confined. Mesh wire fences also make excellent fences for non-horned sheep and goats. Temporary fencing is not recommended for sheep or goats, since they can easily escape.



SWINE



Barbed wire and cable fences are not effective for swine confinement. Woven wire fences with one or more strands of barbed wire (placed along the ground to discourage rooting) provide good swine control. Medium and heavyweight woven wire fences with small openings are excellent for restraining swine. Maximum fence height should be 54 inches. Fences built close to the ground prevent swine from escaping by rooting underneath the fence.

Wire Information

Steel wire longevity depends on the type and thickness of protective coating around the wire. Zinc (galvanize) is commonly used to cover steel wire to protect it from rusting. The more zinc per square foot, the more resistant the wire is to rusting. ASTM has established “classes” of zinc coatings for steel wire based on the number of years that galvanizing delays wire rusting under the different climate conditions. (see Table 1).

WIRE GAUGES	
9-GA	
10-GA	
11-GA	
12½-GA	
14-GA	
14½-GA	
16-GA	
17-GA	
18-GA	
20-GA	

COMMERCIAL

This is the lowest grade and is common on most poultry netting, hardware cloth and welded wires.

CLASS 1

This is usually 0.28 oz of zinc/ft² coating. This is the most common coating on low carbon wire.

CLASS 3

This is the standard on high tensile wire products. This coating is more than 2.5 times thicker (0.80 oz of zinc/ft²), than the industry standard class 1 coating.

TABLE 1

Approximate years of protection given steel wire by Class I and Class III galvanizing.

Wire Size	DRY CLIMATE		HUMID CLIMATE		COASTAL & INDUSTRIAL CLIMATE	
	Class I	Class 3	Class I	Class 3	Class I	Class 3
9	15	30	8	13	3	6
11	11	30	6	13	2	6
12.5	11	30	6	13	2	6
14.5	7	23	5	10	1.5	4.5

Fence Product Lines

ELECTRIC FENCE WIRE

Our electric fence is manufactured with an extremely strong, smooth wire to resist breakage over long distances. These products come in spools of 17, 14 and 12.5 galvanized wire gauges in quarter and half-mile lengths. Electric fence is ideal for added security on an existing fence or as a low-cost temporary or permanent fence alternative.

Item#	Description 1	Description 2
008504	RL 17 GA ¼ Mile Electric Fence	4 – 1,320' Reels per carton
008503	RL 17 GA ½ Mile Electric Fence	2 – 1,320' Reels per carton
036281	RL 14 GA ¼ Mile Electric Fence	2 – 1,320' Reels per carton
008501	RL 14 GA ½ Mile Electric Fence	2 – 1,320' Reels per carton
011274	12½ GA HI-TEN Electric Fence Wire	170,000PSI – 4000' coil
011275	12½ GA HI-TEN Electric Fence Wire	170,000PSI – A05 TRT – 4000' coil
011276	12½ GA HI-TEN Electric Fence Wire	200,000PSI – Class 3 – 4000' coil

1,320 Feet = 80 rod A05 = treatment equivalent to Class 3 zinc coating – meets ASTM A 1093

BARBED WIRE

Barbed wire consists of two strands of wire twisted together with barbs placed at predetermined distances. Continuous twist is the conventional method of manufacturing barbed wire and is communally found in 12½ gauge low carbon varieties.

The barbs on barbed wire are offered in two varieties: 2 point or 4 point. The standard spacing of barbs is 4 or 5 inches.



Item#	Description 1	Description 2
06321	2PT-12½ GA Barb Wire – DOM	Class 1 – 4" Barb Space
13504	2PT-12½ GA Barb Wire – DOM	Class 1 – 5" Barb Space
013499	4PT-12½ GA Barb Wire – DOM	HT Class 3 – 5" Barb Space
408W00	4PT-15½ GA Barb Wire – DOM	HT Class 3 – 3" Barb Space
013506	4PT-12½ GA Barb Wire – DOM	Class 1 – 5" Barb Space

BARBLESS

Item#	Description	Description 2
013531	12½ GA Barbless Wire – DOM	Class 1

All Barbed and Barbless Wire rolls are 1,320' (80 rod) long.

FENCE STAYS

Fence stays aid in maintaining the fence shape and spacing plus allows for increased post installation spacing, reducing the number of posts required.

FENCE STAYS

Item#	Description
013529	36" 9½ GA Fence Stays
013516	42" 9½ GA Fence Stays
013521	48" 9½ GA Fence Stays

WELDED WIRE FENCE

Welded wire is a desirable, extremely cost effective alternative to other fencing types and systems. It gets its name because the horizontal and vertical wires are welded together at each intersection. For a fraction of the money, you can achieve a cost effective and affordable enclosure for a range of applications. The wire can be attached to existing fencing (such as post and rail) or can be installed independently with knock-in posts. It is great to use in your yard, garden, pool, farm or for deer control.

14 GAUGE		
Item#	Description 1	Description 2
056355	Utility Fence 2" w x 4" h x 36"	50' Roll Welded 14 GA
036123	Utility Fence 2" w x 4" h x 36"	100' Roll Welded 14 GA
056360	Utility Fence 2" w x 4" h x 48"	50' Roll Welded 14 GA
036124	Utility Fence 2" w x 4" h x 48"	100' Roll Welded 14 GA
056365	Utility Fence 2" w x 4" h x 60"	50' Roll Welded 14 GA
036125	Utility Fence 2" w x 4" h x 60"	100' Roll Welded 14 GA
056370	Utility Fence 2" w x 4" h x 72"	50' Roll Welded 14 GA
036126	Utility Fence 2" w x 4" h x 72"	100' Roll Welded 14 GA

12 1/2 GAUGE		
Item#	Description 1	Description 2
056382	Utility Fence 2" w x 4" h x 36"	50' RL Welded 12 1/2 GA
056384	Utility Fence 2" w x 4" h x 48"	50' RL Welded 12 1/2 GA
056386	Utility Fence 2" w x 4" h x 60"	50' RL Welded 12 1/2 GA
056388	Utility Fence 2" w x 4" h x 72"	50' RL Welded 12 1/2 GA



Welded Wire Fabric



Welded Wire Panels



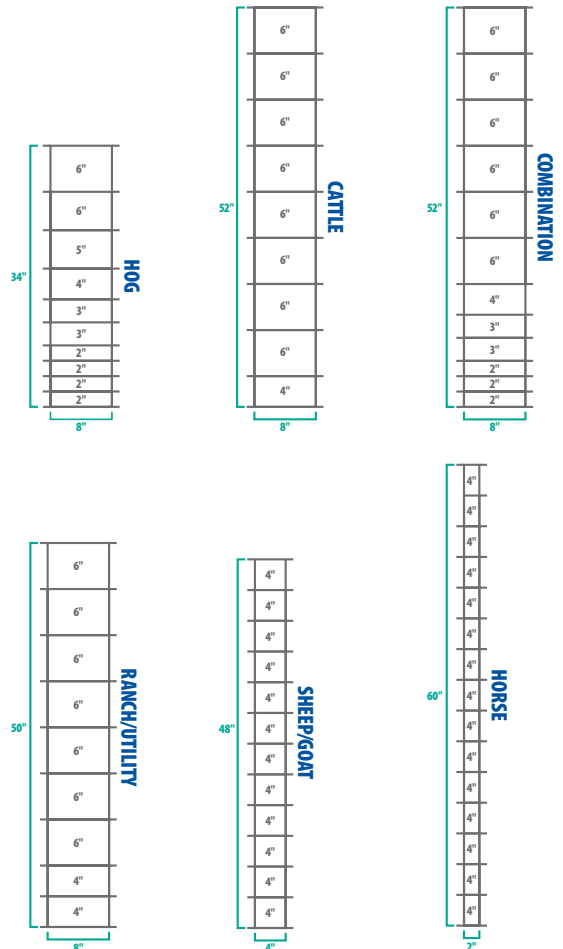
Welded Wire Roll

LIVESTOCK PANELS (WELDED WIRE PANELS)

These utility fence panels have multiple uses on farms as well as residences. Livestock panels are used for temporary protection and containing livestock. All panels are manufactured using the galvanized-before-welding process, which gives a smooth finish to each line wire and eliminates sharp burrs. A wide variety of spacing configurations makes these panels extremely versatile for many applications, including hog pens, hog traps, dog pens, and many other farm and residential uses.

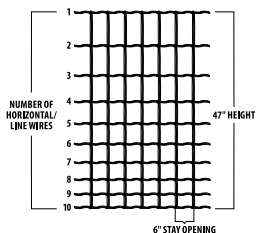
Item#	Description 1	Description 2
036131	Hog Panel 34" x 16'	1/4" Rod 11 LINE Welded
036130	Cattle Panel 52" x 16'	4 GA 13 LINE Welded
056322	Combo Panel 52" x 16'	1/4" Rod 13 LINE Welded
484B00	Sheep & Goat Panel 48" x 16'	4 GA 13 LINE Welded
000P81	Horse Panel 60" x 16'	6 GA 2" w X 4" h Mesh
011277	Handy Panel 50" x 8'	6 GA 13 LINE Welded

LINE = number of horizontal rows

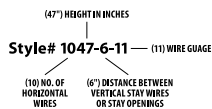


WOVEN WIRE FENCE

Woven wire is available in a variety of heights and configurations. Understanding the product description will help you select the right fence for your job.



Fence Style Numbers



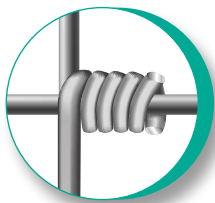
Hinge Joint



This knot is common in agricultural fencing. The knot is formed by wrapping the vertical stay wire pieces around the line wire at each intersection. This design can absorb animal impact without damage. Hinge Joint is the economical knot choice.

Manufacturers Specific Knot Name

Deacero Hinge Joint Knot
 OK Steel Hinge Joint Knot
 Keystone/Red Brand Monarch Knot
 Bekaert Hinge Joint Knot



Hinge Joint

Square Knot

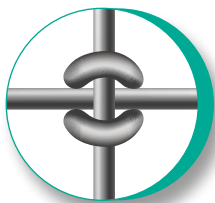


This design uses a separate piece of wire to attach the line wire to the solid stay wire. The Square Knot is smooth to the touch and strong enough to resist animal impact.

The Square Knot gives extra vertical strength to withstand impact from larger animals and prevents buckling or sagging.

Manufacturers Specific Knot Name

Deacero Stiff-Stay
 OK Steel Max-Tight Knot
 Keystone/Red Brand Square-Deal Knot
 Bekaert "S" Knot



Square Knot

Fixed Knot



This design is top of the line. The Fixed Knot utilizes solid vertical stay wires, which increase the vertical strength of the fence and allow for increased post spacing. The knot is a separate piece of wire tightly wrapped around the line wire and stay wire and cannot unwind under pressure. Fixed Knot is very resistant to animal damage.

Manufacturers Specific Knot Name

Deacero Fixed Knot or StayLock Knot
 OK Steel Max-Lock Knot
 Keystone/Red Brand Cross Lock Knot
 Bekaert Fixed Knot



Fixed Knot

WOVEN WIRE FENCE

WILDLIFE FENCE

Item#	Description 1	Description 2
011221	Wildlife Fence 949-6-12 1/2	330' RL Fixed Knot HI-TEN Class 3
011250	Wildlife Fence 949-12-12 1/2	660' RL Fixed Knot HI-TEN Class 3
011259	Wildlife Fence 1348-6-12 1/2	330' RL Fixed Knot HI-TEN Class 3
011267	Wildlife Fence 1348-12-12 1/2	660' RL Fixed Knot HI-TEN Class 3
036239	Wildlife Fence 1775-6-12 1/2	330' RL Fixed Knot HI-TEN Class 3
036229	Wildlife Fence 2096-12-12 1/2	330' RL Fixed Knot HI-TEN Class 3

FIELD FENCE

Item#	Description 1	Description 2
036180	Farm Field Fence 832-6-12 1/2	330' RL Hinge Knot Class 1
036192	Farm Field Fence 939-6-12 1/2	330' RL Hinge Knot Class 1
056507	Field Fence 939-6-12 1/2	330' RL Square Knot Class 1
036178	Farm Field Fence 1047-6-12 1/2	330' RL Hinge Knot Class 1
056574	Field Fence 1047-6-12 1/2	330' RL Hinge Knot HI-TEN Class 3
011273	Farm Coastal Fence 1047-6-13	330' RL Hinge Knot HI-TEN Class 3
056754	Field Fence 1047-12-14 1/2	330' RL Hinge Knot Class 3
056535	Field Fence 1047-6-12 1/2	330' RL Square Knot Class 1

SHEEP & GOAT FENCE

Item#	Description 1	Description 2
036028	Sheep/Goat 1348-4-12 1/2	330' RL Square Knot Class 1

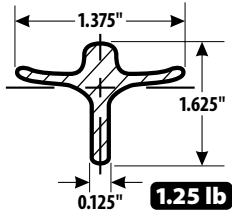
NON-CLIMB HORSE FENCE

Item#	Description 1	Description 2
011268	Non Climb 2" w x 4" h x 48" 12 1/2-10	200' RL Square Knot Class 1
011269	Non Climb 2" w x 4" h x 60" 12 1/2-10	200' RL Square Knot Class 1
036188	Non Climb 2" w x 4" h x 60" 12 1/2-10	100' RL Square Knot Class 1
036189	Non Climb 2" w x 4" h x 72" 12 1/2-10	100' RL Square Knot Class 1



POST TYPES – MEDIUM DUTY T-POSTS

These posts are the most common method of anchoring agricultural fence. They are used in commercial, agricultural and residential applications.



T-posts are referred to by their weight – pounds/liner foot – in this case it would be 1.25

Medium Duty T-Post



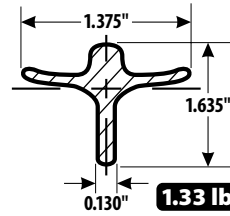
MEDIUM DUTY T-POSTS

Post Height	Post Style	Post Weight (Approx.)
4'	1.25 lb./ft.	5 lbs.
5'	1.25 lb./ft.	6.25 lbs.
5' 6"	1.25 lb./ft.	6.88 lbs.
6'	1.25 lb./ft.	7.5 lbs.
6' 6"	1.25 lb./ft.	8.13 lbs.
7'	1.25 lb./ft.	8.75 lbs.
8'	1.25 lb./ft.	10 lbs.

Item#	Description 1	Description 2
366X00	4' T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034895	5' T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034896	5' 6" T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034843	6' T-Post 1.25 lb. Import Green	Cream Tip w/out clip
009446	6' 6" T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034845	7' T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034859	8' T-Post 1.25 lb. Import Green	Cream Tip w/out clip
034807	KIT 5' T-Post 1.25 lb. imp Green	Cream Tip with clip
034808	KIT 5' 6" T-Post 1.25 lb. imp Green	Cream Tip with clip
034847	KIT 6' T-Post 1.25 lb. imp Green	Cream Tip with clip
034848	KIT 6' 6" T-Post 1.25 lb. imp Green	Cream Tip with clip
034809	KIT 7' T-Post 1.25 lb. imp Green	Cream Tip with clip
034849	KIT 8' T-Post 1.25 lb. imp Green	Cream Tip with clip

KIT – the kit includes 5 clips per post

POST TYPES – HEAVY DUTY T-POSTS



T-posts are referred to by their weight – pounds/liner foot – in this case it would be 1.33

Heavy Duty T-Post



HEAVY DUTY T-POSTS

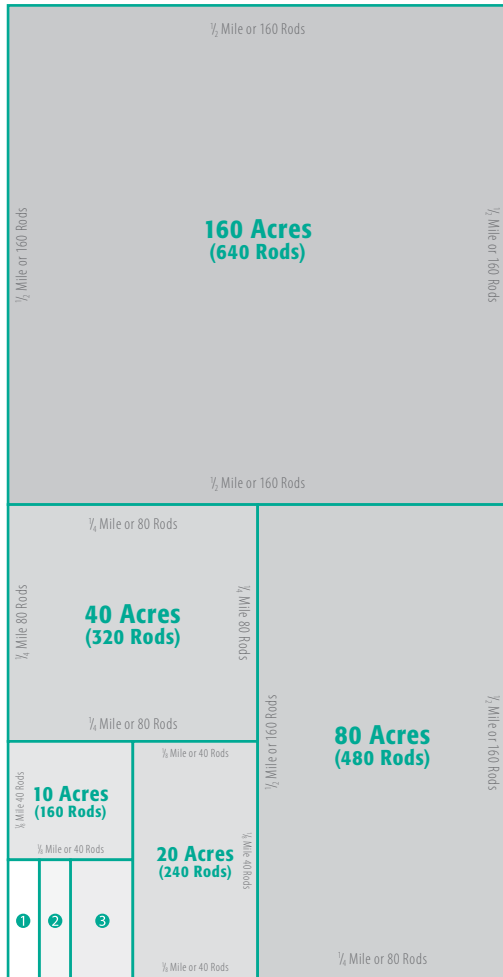
Post Height	Post Style	Post Weight (Approx.)
5'	1.33 lb./ft.	6.65 lbs.
5' 6"	1.33 lb./ft.	7.32 lbs.
6'	1.33 lb./ft.	7.98 lbs.
6' 6"	1.33 lb./ft.	8.65 lbs.
7'	1.33 lb./ft.	9.13 lbs.
7' 6"	1.33 lb./ft.	9.96 lbs.
8'	1.33 lb./ft.	10.64 lbs.
10'	1.33 lb./ft.	13.48 lbs.

Item#	Description 1	Description 2
034861	5' T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034862	5' 6" T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034863	6' T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034864	6' 6" T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034865	7' T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034866	7' 6" T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034867	8' T-Post 1.33 lb. Import Green	Cream Tip w/out clip
033208	10' T-Post 1.33 lb. Import Green	Cream Tip w/out clip
034815	KIT 5' T-Post 1.33 lb. Imp Green	Cream Tip with clip
034816	KIT 5' 6" T-Post 1.33 lb. Imp Green	Cream Tip with clip
034860	KIT 6' T-Post 1.33 lb. Imp Green	Cream Tip with clip
034868	KIT 6' 6" T-Post 1.33 lb. Imp Green	Cream Tip with clip
034869	KIT 7' T-Post 1.33 lb. Imp Green	Cream Tip with clip
034877	KIT 8' T-Post 1.33 lb. Imp Green	Cream Tip with clip

KIT – the kit includes 5 clips per post

Acreage Guide

Use this guide to help calculate the number of rods of fence required to enclose different field sizes.



- ① 2.5 Acres (100 Rods)
- ② 2.5 Acres (100 Rods)
- ③ 5 Acres (120 Rods)

Barbed Wire 80 Rods (1,320 ft.) per Roll
Field Fence 20 Rods (330 ft.) per Roll

1 Rod = 16.5 ft.
1/4 Mile = 1,320 ft. (80 Rods)
1/2 Mile = 2,640 ft. (160 Rods)
1 Mile = 5,280 ft. (320 Rods)
1 Acre = 43,560 sq. ft.

Fence and Post Calculations

Use end and corner posts as required. Stretcher posts should be used at approximately 20-rod intervals for permanent farm fences. Subtract one line for every stretcher post to be used.

RECTANGULAR FIELD				
Acres	Field Length		Fence Required	# Steel Line Posts Required*
	Rods	Rods	Rods	4-Corner Field
1	16	10	52	48
1	20	8	56	52
2.5	40	10	100	96
4	32	20	104	100
5	40	20	120	116
6	60	16	152	148
7	80	14	188	184
8	80	16	192	188
9	80	18	196	192
10	50	32	164	160
20	100	32	264	260
30	80	60	280	276
40	100	64	328	324
50	100	80	360	356
60	120	80	400	396
70	160	70	460	456
80	128	100	456	452
100	160	100	520	516
120	192	100	584	580
140	280	80	720	716
160	320	80	800	796
320	400	128	1,056	1,052
640	400	256	1,312	1,308

SQUARE FIELD					
Acres	Field Length			Fence Required	# Steel Line Posts Required*
	Rods	Feet	Inches	Rods	4-Corner Field
1	12	10	9	51	47
2	17	14	8	72	68
3	21	15		88	84
4	25	4	11	101	97
5	28	4	8	113	109
6	30	16	3	124	120
7	33	7	8	134	130
8	35	12	10	143	139
9	37	15	8	152	148
10	40			160	156
20	56	9	5	227	223
30	69	4	8	277	273
40	80			320	316
50	89	7	4	358	354
60	97	16	2	392	388
70	105	13	8	424	420
80	113	2	3	453	449
100	126	8	1	506	502
120	138	9	4	554	550
140	149	11		599	595
150	160			640	636
320	226	4	7	905	901
640	320			1,280	1,276

* This is only a guideline/recommendation. Assumes square area to be fenced. The quantity of the fence/posts required will increase as the area gets narrower and longer.



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