



FIELD CONDITIONER

Turf-Prep sports field conditioner can help eliminate standing rainwater on your fields when it's applied at season's start. The porous soil profile creates a capillary system that absorbs large amounts of water in a short amount of time. It also helps reduce injury risks by acting as a cushion on the field's surface and minimizing slippery conditions. Its heat-treated particles will not blow away during dry, windy days, which reduces your costs.

Pioneer Manufacturing/800-877-1500
For information, circle 166



LOW PRESSURE ROTOR FOR LARGE SITES

Hunter Industries has introduced the I-60, a low precipitation turf rotor that provides 50-66 ft. of irrigation coverage where low water pressure is a concern. The product operates at 40-60 psi and doesn't require a booster pump.

The latest addition to Hunter's line of gear-driven rotors, the I-60 has a 3-in. pop-up height and is available as a full circle or adjustable arc (40-360 degrees) model.

Hunter says the unit can save you money; for example, installation expenses are cut because no pump is necessary, and smaller pipe can be used because less water is needed to run the system, while overall maintenance costs are reduced because less energy and water are needed.

The unit has the single nozzle Precision Distribution Control system with a gear-driven diffuser pin, and drain check valve that checks up to 10 ft. of elevation change.

Hunter Industries/800-733-2823
For information, circle 163

TURF SYSTEM

Southwest Recreational Industries has received patent approval for its AstroPlay brand turf system, including the "Thatch Zone" or "Root Zone" feature of the synthetic turf.

A feature of the system is the construction of the infill. It includes two layers, with the first, which may be composed of all rubber particles, installed in the Thatch Zone. A second layer, installed on top of the first, may include rubber and sand, with the ability to tailor the quantities of the components of the infill for a particular field.

The AstroPlay system brings resilience, uniform traction, and durability to multi-purpose play applications, says the manufacturer, who also makes AstroTurf.

Southwest Recreational Industries/800-233-5714
For information, circle 169



The thing practically crawls up walls.

This may very well be the most versatile tractor line on the globe. To be versatile, you've got to do two things: be agile and be user-friendly. Lots of old guard tractors are so big and clunky that they're hard to maneuver. Yes, they're durable, but difficult. Options can cost you.

Carraro tractors offer a unique array of ergonomic and operational functions built in, and are engineered for simplicity, comfort and increased return on investment.

A patented system called "Actio" in all Carraro tractors lets the chassis

articulate to all terrain types and each wheel independently grips the ground for superior balance and stability. The center of gravity is so low that it virtually hugs the turf. Each wheel being the same size means you get equal ground pressure on all 4 wheels, all the time.

Other neat features include a completely reversible seat and control system that changes direction in seconds, loads of attachments that mount front, back and even on top, as well as powerful, yet fuel minimizing engines that help keep operations costs down. Call us for our free video and more details.



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Circle 107 on Inquiry Card



LINE MARKERS

NewLiner heavy duty dry line marking machines can line athletic fields, running tracks, golf course boundaries, or even parking lots for special events. Newstripe has these models available with capacities of 50 or 100 lbs. of material. They also feature: galvanized steel components; large diameter tires for easy rolling over rough terrain; oversized cushion grips; handle-mounted control levers; precise control over 2- and 4-in. lines; and an 18-mo. Warranty.

Newstripe/800-624-6706
For information, circle 165

PRE-BLENDED

Rock & Earth Technology's Sunset Red blended infield mix has base material of 70% sand/30% clay; silt is blended with 10% (by volume) Hydrocks calcined clay field conditioner. This results in a beautiful rich red infield mix which insures a safe and playable field, says the company.

The product is delivered "pre-blended" and in bulk for one-step installation. All that is required is scarification of the existing surface, spread the new product and yell "play ball!"

For field renovations requiring conditioner only, the company will deliver Hydrocks in bulk or 1 cu.yd. Super Sacks.

Rock & Earth Technologies, Inc./770-778-5692
For information, circle 170



SPRINKLE, SPRINKLE

The EZ Adjust Series sprinklers from Toro are available in high-pop, lawn pop-up, and shrub models. All arc, flow, trajectory, and radius adjustments can be made from the top of the sprinklers, which are clearly marked with laser-etched indicators.

The top arc adjustment permits settings from 30-360 degrees and a easily seen red band on the riser allows quick verification of the setting. A left-arc indicator is visible on body and cap. The sprinklers have X-Flow feature that shuts off water flow while the system is running. Water pressure maintained in the sprinkler body holds up the riser, leaving your hands free to make arc or nozzle changes without getting wet.

The units are vandal resistant; a Smart Arc feature returns the sprinkler to its preset arc in case of tampering, and a slip clutch prevents gear damage by vandals.

The Toro Company/800-664-4740
For information, circle 164



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Circle 108 on Inquiry Card





WATER-SAVING SPRAY HEAD

The Institutional Spray, a new multi-featured spray sprinkler to high traffic areas, is available from Hunter Industries. Choose from 4-, 6-, or 12-in. pop-up sizes.

The units feature a built-in pressure regulator that maintain water pressure at an optimal 30 psi and eliminates misting and fogging; this technical advance means more controlled and efficient irrigation with wide pressure variations or significant elevation changes. Hunter says that with consistent water pressure, you can save up to 25 percent in water costs.

The regulator also acts as a flow control device if a nozzle is ever removed or damaged. Water loss at the affected head is reduced up to 70 percent while the rest of the system continues to operate.

Hunter Industries/800-733-2823
For information, circle 167



SAFER INFIELDS

BEAM CLAY special mixes for infields, pitcher's mounds, home plate areas, and warning tracks are used by more than 100 professional teams (including eight of the last 10 World Series champions), 600 colleges, and thousands of towns and schools worldwide.

As a one-stop source for baseball surfaces and supplies, BEAM CLAY offers more than 200 infield products from distribution centers nationwide, including regional infield mixes blended for specific climates and for every state.

Partac Peat/Beam Clay/800-247-BEAM
For information, circle 171



TURFACE
Pro League Red

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RED CALCINED CLAY CONDITIONER

Turface Pro League Red is the only patented red calcined clay conditioner. It combines a rich red color with proven infield conditioning benefits that create excellent sliding and fielding surfaces.

The product is unmatched in drainage and absorption qualities for maximum rainout protection, says the company. Pro League Red absorbs more water and conditions infield soil better than crushed aggregates, says manufacturer Profile Products.

The conditioner requires about half the tonnage of aggregates to obtain a 1/4-in. coverage on an infield, says Profile.

Profile Products LLC/800-207-6457
For information, circle 157

"PORTABLE GREENHOUSE"

Reemay lawn and garden blankets can be used in spring and fall to provide warm and moist conditions. The lightweight polyester blankets retain warmth and moisture similar to a greenhouse. The blankets retain moisture by slowing the evaporation rate, which means seeds will germinate earlier and grass will grow faster. Sunlight, nutrients, water, and air can all pass through these blankets.

Standard size is 12 x 15 ft. but custom sizes are available.

Properly cared for the blankets should last several seasons.

Reemay/800-321-6271
For information, circle 168



STAINLESS STEEL ROTOR

Rain Bird announces the newest addition to its family of rotors: the 5004 stainless steel rotor (5004SS). With a radius of throw of 23-50 ft., the new rotor is specially engineered for mid-size commercial turf areas. The stainless steel riser provides added toughness to deter vandals in public turf areas. In addition, there is a built-in slip clutch mechanism for added protection of the gear drive.

This rotor comes with a nozzle tree that includes low angle, Radius+ and the patented Rain Curtain™ nozzles. All nozzles are interchangeable from the front of the rotor and arc and radius adjustments are made from the top requiring only a flat-blade screwdriver.

Backed by a 5-year trade warranty, the 5004 stainless steel rotor is equipped with Rain Bird's proven water-lubricated gear drive for durable, reliable operation.

Rain Bird/520-741-6100
For information, circle 158



INFIELD MIX

Mar Mix is an ideal infield mix ranging from 60-80% Sand and 40-20% Clay. This material is used throughout the Eastern Portion of the US. Maker Southern Athletic Fields (www.mulemix.com) says it has the following qualities: superior red color; high quality and uniformity; creates firm surfaces for proper footing; and works well with amendments to create a more playable surface.

Professional stadiums, park and recreation departments, high schools, and Little Leagues use Mar Mix.
Southern Athletic Fields/800-837-8062
For information, circle 162

Thatch Problems?

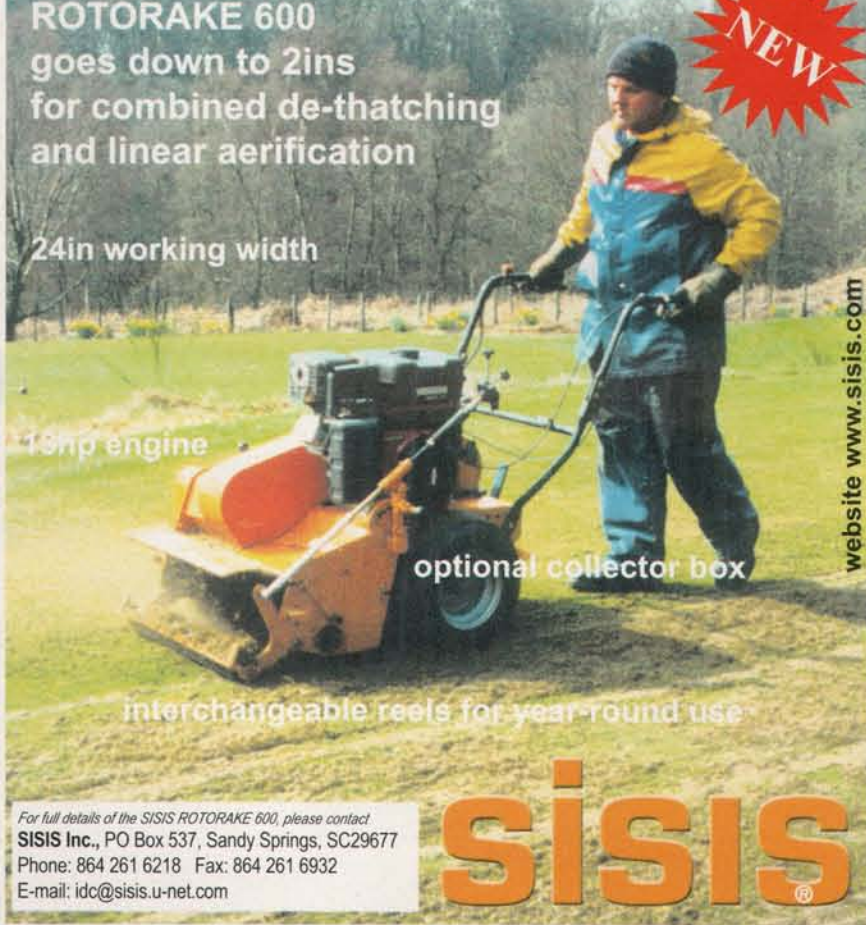
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TURF RENOVATION TOOL

Basamid®, a granular soil fumigant, is used for turf renovation to help rid turf of existing vegetation in addition to dormant weed seeds such as poa annua, which can germinate up to 40 years after dormancy. Golf course superintendents have recently discovered its unique benefits of providing long-term and complete control of unwanted pests while establishing new fairways.

Features and benefits include: labeled for lawn and turf renovation, golf course construction and renovation, lawn and turf seedbeds, ornamental field production and ornamental landscape beds; eliminates weed seeds, nematodes, grasses and soil diseases; granular formulation is easy to use, product is activated by soil moisture; offers 24-hour re-entry interval, allows reseeding in as little as 10-12 days; as a non-restricted product, it requires no complicated application equipment or tarps, thereby reducing labor costs and cost of plastic disposal.

BASF/800-545-9525
For information, circle 147



MORE WEED CONTROL

PBI/Gordon's new herbicides, marketed under the ProForm™ brand, contain EPA-approved carfentrazone-ethyl in combination with phenoxies and dicamba, which broadens the weed control spectrum and adds systemic activity, the company says.

SpeedZone and PowerZone feature protox inhibitors that result in a different plant response. "It looks different," says Gordon's Doug Obermann. "The carfentrazone-ethyl causes weeds to turn brown and crisp. They just dry up and blow away."

In addition to acting faster, the new products actually perform better in cooler weather, says Obermann. "It's a great product for early spring and late fall." He adds that the fast response espe-

cially controls clover and spurge. "It smokes them in about a week. You'll see visual results in 24 hours or less and dead weeds in days."

The EPA classifies carfentrazone a "reduced risk pesticide" and the new products' toxicological profile earned them a "caution" signal word on the packaging.

PBI/Gordon/800-821-7925
For information, circle 174

NON-CHEMICAL MOLE CRICKET WEAPON

MicroBio, a Becker-Underwood subsidiary, introduces Nematac S, a bio-pesticide that uses a natural enemy instead of chemicals to control the pesky mole cricket.

Nematac S is a nematode-based bio-pesticide formulated in a water-dispersed carrier that is applied as a high volume spray. It is based on a specific beneficial nematode called *Steinernema scapterisci* that was identified as a pathogenic parasite by the University of Florida.

Exclusively licensed by MicroBio, a UK based company, the beneficial nematodes in Nematac S become active when applied to a soil profile and use mole crickets as hosts. The microscopic nematodes enter inside the mole crickets and release lethal bacteria. The mole cricket becomes a food source for the nematodes, which will reproduce and continue to attack the mole crickets infesting the turf. The nematodes in Nematac S attack only insects so they will have no ill affects on plants.

First introduced in the United States from Central America through ports in Florida, mole crickets quickly spread throughout the southeastern US and recently have begun showing up as far west as Texas. The mole crickets can grow to 3 in. in length and cause considerable damage to turf by burrowing into the soil and eating the roots of grasses. Nematac S does not pose the environmental risks associated with many of the current products being used, such as runoff into water basins or possible toxicity issues for applicators and other people coming in contact with the treated area.

Becker-Underwood/800-232-5907
For information, circle 175



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Circle 110 on Inquiry Card

How to set up

BY FLOYD PERRY

Most of your clay surface sports, softball and baseball, youth or adult, have their specific field layout designs and distances readily available for you to follow (Diagram A). Place bases your respective league's distances, e.g., Little League 60 ft., Pony 80 ft., high school 90 ft., etc. Pitching distances are in Diagram B.

If you're laying a diamond out for the first time, it's best to gather your engineering staff with distance lasers to set right angles and correct positioning of base anchors (Photo 1). Once all measurements are set and in place, it's just a matter of stringing all distances from the apex of home plate, which is your benchmark for correct angles.

Photos 2 and 3 show the center string dissecting in half home plate and second base, with the two outside strings 12 in. off the center. These three strings square off the pitching rubber. Set the distance measurement according to league play (Photo 4).

The standard adult pitcher's mound recommends a 3 x 5-ft. table or platform behind and including the pitching rubber (Photo 5), depending on level of performance and maintenance. Many times this table is smaller and rounder.

The corner bases are measured to the rear corner (Photo 6) with second base being measured 127 ft, 3 3/8 in. to the middle of the bag.

Many progressive groundskeepers can lay out a baseball/softball diamond by different "homespun" means. Just remember all angles begin with the apex of home plate.

ST

Floyd Perry is director of Grounds Maintenance Services, Orlando, FL, 407-648-1332.

Diagram B

Group	Type/Age	A	B	C	D	E	F	G	H	I	J	K
College	Fastpitch/Female	43	84'10"	60'	60'	30'	8'	15'	3'	190'-220'	4'	3'
High School	Fastpitch/Female	40'	84'10"	60'	60'	30'	8'	15'	3'	200'-225'	4'	3'
ASA Adult	Fastpitch/Women	40'	84'10"	60'	60'	30'	8'	15'	3'	200'-250'	4'	3'
	Fastpitch/Men	46'	84'10"	60'	60'	30'	8'	15'	3'	225'-250'	4'	3'
	Slowpitch/Women & Men	50'	91'9"	65'	65'	32'	8'	15'	3'	265'-315'	4'	3'
ASA Youth	Fastpitch/Girls/10U	35'	77'9"	55'	55'	27'	8'	15'	3'	150'-175'	4'	3'
	Girls/12U	35'	84'10"	60'	60'	30'	8'	15'	3'	175'-200'	4'	3'
	Girls/14U	40'	84'10"	60'	60'	30'	8'	15'	3'	175'-200'	4'	3'
	Girls/16U/18U	40'	84'10"	60'	60'	30'	8'	15'	3'	200'-225'	4'	3'
AFA Youth	Fastpitch/Girls/12U	38'	84'10"	60'	60'	30'	8'	15'	3'	4'	3'	
	Girls/14U/16U/18U	40'	84'10"	60'	60'	30'	8'	15'	3'	4'	3'	
USSSA Adult	Slowpitch/Men's 12"	46'	91'9"	65'	65'	32'	10'	10'	5'	250'+	3'	2.5'
	Womens 11"	46'	91'9"	65'	65'	32'	10'	10'	5'	300'-315'	3'	2.5'
SCMAF Adult	Slowpitch/Women/Men	50'	84'10"	60'	60'	30'	6'	15'	3'	250'+	4'	3'
	Fastpitch/Men	46'	84'10"	60'	60'	30'	6'	15'	3'	250'+	4'	3'
	Fastpitch/Women	40'	84'10"	60'	60'	30'	6'	15'	3'	250'+	4'	3'

Diagram B

Group	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Pro, College, High School	60'6"	90'	127'3"	95'	18'	26'	13'	45'	20'	10'	15'	60'	320'-350'	400'+	10'	4'	6'
Babe Ruth	60'6"	90'	127'3"	95'	18'	26'	13'	45'	20'	10'	15'	60'	300'	335'	10'	4'	6'
Colt	60'6"	90'	127'3"	95'	18'	26'	13'	45'	20'	10'	15'	60'	300'	350'	10'	4'	6'
Pony	54'	80'	113'2"	80'	15'	24'	12'	40'	12'	6'	12'	40'	250'	300'	8'	4'	6'
Bronco	48'	70'	99'	65'	12'	22'	11'	35'	12'	6'	9'	30'	200'	250'	6'	4'	6'
Little League	46'	60'	84'10"	50'	10'	18'	9'	30'	8'	4'	6'	25'	200'	200'	6'	3'	6'
Mustang	44'	60'	84'10"	50'	9'	20'	10'	30'	8'	4'	6'	20'	175'	225'	4'	4'	6'
Pinto	38'	50'	70'8"	50'	9'	20'	9'	25'	8'	4'	6'	20'	150'	200'	4'	4'	6'

Photo 1



Photo 2



bases

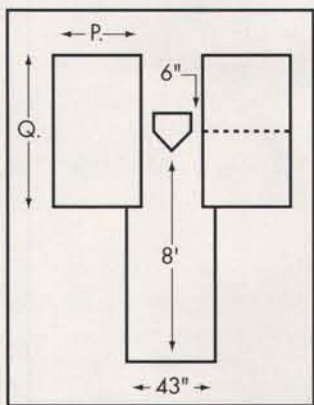
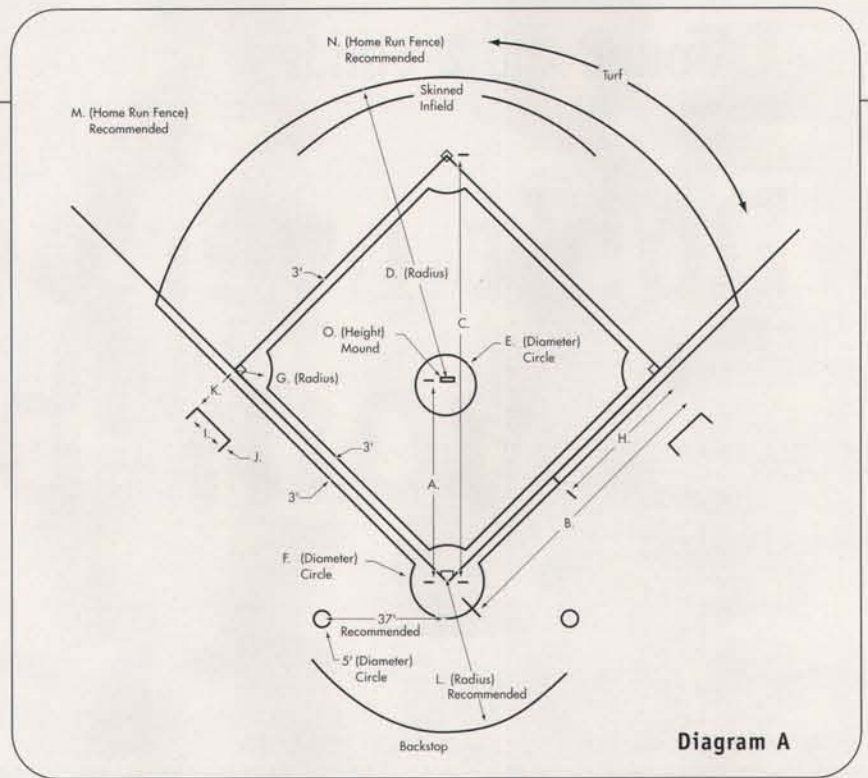


Diagram C

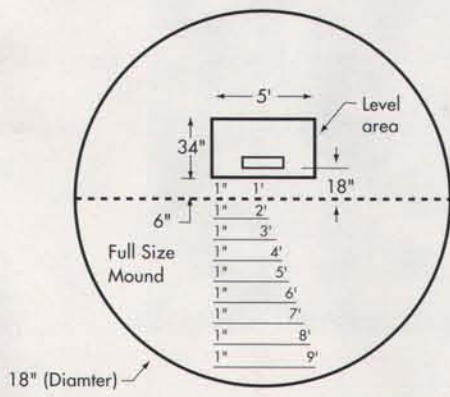
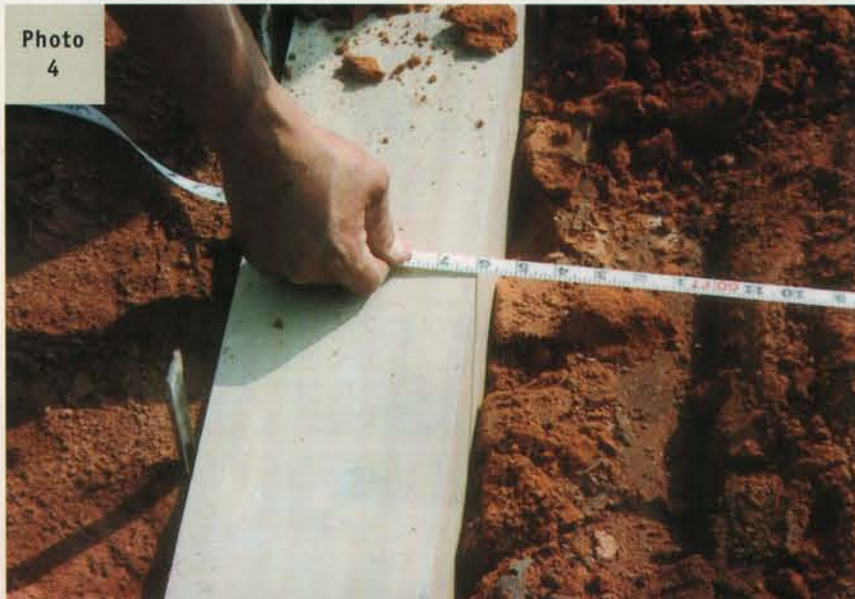


Diagram D



Don't overlook your backstops

BY JIM MYRLAND

Rarely does anyone stop to think about the importance of a backstop structure on an athletic field. Quite often they are taken for granted and overlooked as simply being a part of the surrounding facility with no real impact on the game itself. But it is logical to believe that because of their importance to the game, backstop structures were invented within hours, if not minutes, of the first organized baseball game ever played. The time wasted running after every errant pitch and foul ball that passed the plate, not to mention the safety of curious bystanders and spectators made the use of these structures a necessity to facilitate a timely and enjoyable event.

Today backstops are as much a part of baseball and softball fields as the bases and home plate, but they are rapidly gaining popularity in other sports such as soccer, field hockey, and lacrosse as well. They come in many sizes, shapes, and styles to reflect the various needs of any particular game. Regardless of the sport however, their purpose is always the same—to protect people and property in the area behind the goal or home plate while improving the playability of the field by keeping the ball near the action.

A backstop is most effective when it is located relatively close to, but not infringing on, the field of play. For example, baseball and softball backstops must be located far enough back from the plate and base lines in case a reasonable play can be made on a ball in foul territory. If they are located too close to or overhanging the plate, they may interfere with a foul ball that would normally be playable.

In other field sports such as soccer, the backstop structure may be placed immediately behind the goal if desired since out-of-bounds territory does not affect play. Of course attention must be given to placing any support structure to minimize the danger of collision with a player running out-of-bounds. If the backstop is moved further from the field of play to avoid collisions, it must be made larger to compensate for the distance if it's to remain effective. This trade-off between safety and playability controls the design and placement of the backstop structure.



Figure 1



Figure 2



Figure 3

Three baseball designs

There are basically three common backstop designs used for baseball and softball. The most popular is a three-sided chain link structure. Large diameter anchor poles support cross bars and chain link fabric to create a wall that runs behind the plate and some distance down each foul line. Sizes can vary from a simple set of three 10 x 10-ft. panels to a structure 30 ft. high and more than 100 ft. wide. Chain link backstops can also be made with a cantilevered or over-hanging section that projects up and out over the home plate area.

The second backstop style is the "clam shell." These are somewhat less common since they are made with shaped support frames and chain link fabric panels. Since only a few suppliers manufacture them, the cost of freight and installation to your location may be relatively high. Most fence contractors on the other hand, can build the three-panel structures on-site using standard fencing materials.

The third backstop design used for baseball and softball uses netting material instead of chain link fabric. Netting is less expensive, lighter weight, and more easily fit to odd shapes or forms than chain link, not to mention easier for spectators to see through. These structures are often made using support poles or cables, protective netting, and a solid base wall. Typically backstops of this nature are built into stadiums or enclosed facilities where spectator safety and visibility are important issues. Figure 1 shows an NCAA Division 1 women's softball complex. This installation includes vertical nets hung behind home plate and down each foul line, along with an angled net running from the top edge of the backstop to the press box to protect the entire spectator seating area.

The solid wall at the base of the backstop can be made from wood or concrete. The surface should be padded to not only protect players from collisions but also deaden the

rebound of any ball that may impact the area. Padding can also be attached to a chain link structure in a similar manner to achieve the same results.

Hybrids of these designs in which both fencing and netting materials are used may