

Getting An Angle On Slope Mowing



On-demand four-wheel-drive, front differential lock, and roll over protection offer traction and safety on Deere's F1145.

Rolling hills of green turf are beautiful to behold, but often a nightmare to mow. Safety is paramount in mowing slopes. If an operator improperly tackles a slope with the wrong machine, the mower can roll. As a turf manager, you are responsible for not only providing an attractive site but also for ensuring the safety of your workers.

Slopes are rated in percentages, degrees and ratios. Degree measurements are often the easiest to visualize. A 90-degree slope is vertical, and a 0-degree slope is flat. Most commercial mowers are rated for use on slopes up to 15 degrees. If your site has many slopes greater than 15 degrees, select a riding mower that will handle the terrain or mow the slopes with walk-behind mowers.

Choosing A Mower

The best way to determine if a mower can handle your toughest slopes is to ask for a demonstration. Ask your local distributor to tackle your toughest slope on a damp morning.

The following are some features to consider when you purchase mowers for slopes. Not all mowers will have all features. Conversely, you may not have enough slope mowing to justify purchasing an extremely heavy duty machine. Ask lots of questions and purchase the best machine you can afford.

■ **Low Center Of Gravity.** Look for mowers with a low center of gravity. A mower that is low and wide spreads its weight out close to the ground. "It helps create a low center of gravity so when you mow on a bank, the center of gravity won't shift and cause the mower to turn over," says Bob North, Kut-Kwick Corporation.

Check the manufacturer's rating to see how steep a slope they recommend you mow with their machine. Some mowers are intended specifically to handle steep slopes while others feature modifications that allow them to mow hillier terrain.

■ **Axle Spacers And Wide Tires.** You can purchase axle spacers and wide tires to modify some mowers to better handle slopes. These two items help spread the machine's weight across a broader area, improving traction in rough areas and on slopes.

■ **Self-Leveling.** If you are mowing a 20-degree slope, then your body is also tilted at the angle unless the machine has a self-leveling feature. Some machines level the entire cab while others focus on the seat. The goal is to keep the operator as upright as possible for safety and comfort.

Self-leveling features adjust with either a hydraulic sensor or operator weight, depending on the model and manufacturer. The Excel UTR adjusts the seat automatically to 20 degrees. "When you start to feel uncomfortable, you probably are mowing too steep a slope,"



Kubota F2100 sports a low center of gravity and four-wheel-drive for mowing slopes.

says Don Consolver, Excel Industries, Inc.

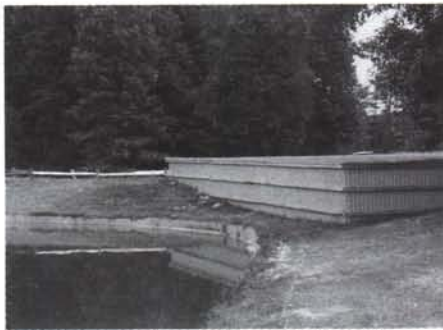
■ **Dual Hydrostatic Drive.** With dual hydrostatic drive, the left and right wheels have independent drives. This allows the operator to operate the wheels

separately, offering control for making turns on slopes, says North.

■ **All-Wheel Drive.** The ability to switch into all-wheel or four-wheel

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Mowers

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drive gives the operator more control in difficult areas. The additional drive wheels offer traction if one of the wheels slips.

Some machines have allowed the operator to switch into four-wheel drive. Other machines selectively switch into four-wheel drive when they detect wheel slippage.

■ **Front Differential Lock.** A front differential lock enables the operator to lock together the front wheels. This aids traction if one of the wheels is slipping. The wheels work together to move forward. In four-wheel drive, the front differential lock gives the mower even more traction.

■ **Roll Over Protection System.** From a safety standpoint, ROPS is important for any machine that will constantly be used on steep slopes. "If you are going to be operating on slopes, a roll bar can save your life," says Larry Weyers, assistant director of engineering, Kubota Tractor Corporation.

Some machines provide this feature as standard equipment while others offer it as an option. A seat belt is part of the ROPS safety equipment. Encourage operators to wear their safety belts so they are not thrown free of the machine and crushed. ROPS is designed to protect operators in the operator's seat. If the operator is thrown out of the seat, ROPS can't protect him.

"Check your ROPS for service, just like other components," Weyers says. Make

Train mower operators to investigate on foot any area they are unsure about.

sure the bolts are tight and the seat belt functions correctly.

■ **Cutter Deck Mount.** The majority of specialized slope mowers are either front or belly-mount. Rear-mount mowers can present a problem when you mow difficult terrain. Instead of looking forward to avoid obstacles, the operator tends to look back at the mowing unit.

Decks are mounted on machines with various degrees of maneuverability. Some decks can *float* from side to side while others can *float* from back to front. The deck's ability to move allows the cutting unit to ride smoothly over bumpy terrain, helping to prevent scalping.

■ **Engine Lubrication And Carburetion.** Engines require adequate lubrication in order to operate properly. When you are operating a mower at an angle for a length of time, the engine can wear excessively if it is not equipped with a pressurized oil system. The oil system should be large enough to provide adequate lubrication

for the conditions in which the mower will operate.

Some carburetors won't allow enough fuel to flow through the system on slopes greater than 15 degrees, North says. Most mowers are available with a selection of engine options. Check with the engine or equipment distributor to be sure the engine you choose is equipped to handle slope mowing.

Safety First

Before you turn anyone loose to mow steep slopes, walk the area. Be sure the mower and the operator can safely handle the slope. If the operator is scared, don't send him out until he is comfortable about his ability to do the job.

Train mower operators to investigate on foot any area they are unsure about. "Watch out for wash outs. In seldom-mowed, rough areas, tall grass can obscure deep ruts," Consolver cautions.

When mowing slopes, Consolver and North recommend mowing horizontally. Weyers says Kubota recommends mowing up and down slopes using four-wheel drive mowers.

Mowing slopes safely and efficiently involves using properly balanced equipment designed to do the job. If you change decks on your mowers, be sure the tractor unit still has adequate counterweight to handle slopes. Ask your equipment distributor about counterweights when you order new mower decks or other attachments. Combine safety with good mowing technique, and your slopes will look good from any angle. □



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