### Popular Science

THE What'S NEW MAGAZINE

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### The '73 Mowers, Riders, and

#### Choosing the right one for you

It's a vintage year for mowing equipment, but try before you buy

By E. F. LINDSLEY / PS Midwest Editor

Planning to buy a new tractor or mower in '73? Our survey of what's new in lawn-mowing equipment convinces us that it's a vintage year. Industry pangs on retooling to meet new safety standards are past.

Design refinements had tended to stagnate awaiting retooling; now they've surged into production. Small, but important, improvements in steering, braking, transmissions, controls, and performance have been wrapped up as part of the package. And electric mowers have come of age.

Some '73 trends we've spotted:

- Nearly all meet ANSI B71.8 72 safety tests.
- Interlocked starting/clutch/ brake/mower systems almost universal on tractors.
- Keylock ignition, even on manual start.
- Lower noise; Bolens QT actually meets 1975 low-noise standards.
- Riders with headlights for night
  mowing

The new safety devices will take getting used to. If you forget to depress and lock the brake, or leave the cutter engaged, the engine simply will not start. The foreign-object deflectors in discharge chutes tend to plug in wet grass. And the longer chute projections limit tight cutting on the

chute side. A nuisance? Sometimes, but better than surgery for kids, bystanders—and you.

How important will the electrics be? Jacobsen, usually very accurate in its market estimates, says that an even million riding mowers and tractors will be sold in '73; 730,000 riders and 270,000 tractors. It's meaningful that their newest mower is an electric rider. GE's Electraks and John Deere's Electric 90 have been on the market for over two years. One GE dealer, admittedly an exception, says his electric sales were eight to one over gas last summer.

We use-tested a John Deere 90 and a GE E8 on our three-acre plot most of the summer of '72. Results on both were totally good. In snow dozing, they start instantly, even in bittercold outdoor storage; and they plow,



Murray's sealed-beam headlight and ammeter to show battery charge make a good team for mowing in the cool of the night.



**Beautiful brute from Wheel Horse** packs 18 horses into a cast-iron, two-cylinder engine. Gas tank holds a big 5¾ gallons.



John Deere electric loves the cold—no starting problems—so it's a handy all-season tool. Electrics are quiet, too.



All-electric Jacobsen Mark IV has three batteries, a built-in charger, and single-foot forward and reverse control.



Smooth power from big opposed twin-cylinder engine gives Sears SS/16 the muscle you need for snow removal and gardening.



Smallest GE electric carries three batteries up front. Author used one all last summer, found it totally satisfactory.

## Tractors: and your yard

and plow, and plow. Others about to join the electric parade are Roper, Sears, MTD, and Rugg.

Bigger gas-powered tractors. Our count shows at least a dozen offerings of 16 hp and over—all air-cooled, but many with twin-cylinder engines. Eighteen and 19-hp tractors from Wheel Horse, Simplicity, Allis-Chalmers, and Bolens are available for big work needs. Higher power is not just a sales fetish. Users of tractors with ground-engaging equipment or snow throwers have always felt the need for it. If you confine your tractor to grass cutting, it's less vital.

But there's more than just power to matching a tractor to your personal needs. If, for example, you're building a home and have lots of landscaping and rough operation lined up, the ideal machine might be an Economy



International's slick fiberglass-body Cadet 75 has power upped to seven horses. Mow-

er cuts a 32-inch swath. Deck lifts up to four-inch clearance—good for rough cutting.



Economy tractor belies its name with extremely heavy-duty gearbox, automotive rear end, huge gears driving massive axle.



Homelite's RE-8E has shuttle drive with dual range. Result? You back up without gear clash, then quickly shift back to forward.



Quick rack and gear steering, half-inch cutting clearance, clutchless reverse make Allis-Chalmer's Scamp dandy for maneuvering.



**New Jacobsen rotary** has specially vented deck that improves chopping action by introducing air from two directions.



**Real improvement** is Lawn Boy's heavy rubber rear deflector shield. It solves the problems of old shields: flopping under deck.



Electric start, well-placed controls, vinylcovered bowden wires, super-tough bag make Toro self-propelled a top-notch rotary.

tractor with its high wheels and ground clearance, solid gear drive to a Dana automotive rear end, and final drive by two-inch-wide bull gears to a 1½-inch rear axle. The engine is a 14-hp Kohler industrial. Or, if your yard has steep slopes, culvert trenches, or really tough going that takes great tipping stability and total traction, Gravely can't be beat. Both of these workhorses use lots of cast iron, big gears, and roller bearings.

If you are less concerned with dirt and snow moving, or rough hillside use, you'll get more styling, less noise, and more automobile-like operation in Bolens, Case, Wheel Horse, Simplicity, Homelite, Jacobsen, Gilson, Wards, Roper, and Sears. All have 16 horses or more. Bolens, with its QT-16, is outstandingly smooth and quiet.

Some things to look at and think

about if you are buying a big one.

Drive. Hydro, gear, dual range? If you want to plow, think dual range. Are drive housings and gearboxes cast iron or light die castings? And check bearings.

 Gas-tank size. Some have less than three gallons, others nearly six. The larger tank saves lugging gas.

 Weight. In general, bare tractor shipping weight is a meaningful figure related to the amount of actual iron and steel in the tractor. Try a weight/ dollar evaluation; you may be surprised.

 Deck size. Super-wide decks are great for broad, smooth yards; make it harder to remove blades for sharpening; and scalp more on hummocks. If your grass is heavy and tough, try

• Deck lift. Hydro, electric, or manual? Regardless, the lift should be able to select and hold any height on-the-go. Some hydraulics are either all-up or all-down, without precise inbetween control.

 Deck clearance. Beware of decks that don't raise high enough to clear hill brows, or decks that won't tilt

and float freely.

 PTOs, front and rear. Look for spline-shaft drives; avoid snake nests

Rear discharge decks are not entirely new but are revived this year by Gilson, Wards, and Yardman. More makers should follow. Rear discharge is safer, spews grass cuttings out between the rear wheels where a sweeper or bagger towed directly behind can clean up as you go. This beats the chute on the

NTATIVE 1973

1300

NA 435 980

> 850 660

600

365

800

760

715

715



High visibility in all directions and no sharp edges mark Ariens' Emperor-eight-horse, electric-start rider with 38-inch deck.



Gilson's eight-hp Lo-Profile rider uses disk drive for highly flexible performance without gear problems. It's smooth, nimble.



Case 108 is a small tractor built as solid as big ones. It has eight-hp engine, 32-inch deck. Note husky control linkage.

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					Acres (		REP	RESENTATIVE
MFG. or SELLER	NAME & MODEL	НР	TRANSMISSION MECH., HYDRO, OTHER	SPEED RANGE	DIRECT	ATT. LIFT	MAX, CUT ROTARY	COMMENTS: SPECIAL FEATURES
ALLIS-	616	Twn.	Hydro plus 3-spd.	3 Ranges, fwd & rvs.	Yes	Hyd	60"	Commercial tractor
CHALMERS		19.5	gears to spur grs.	4-w/Shuttle	Yes	MnI	48"	Ltdslip diff.
	416	16	Hydro or shuttle	3/Gear 4/shut.			42"	Electric PTO clutch
	410	10	Gear or shuttle	3 Fwd. 1 rvs.	No	Mnl	36"	Gear & sector steering
	8	8	Gear	3 Fwd. 1 rvs.	No	Mnl	30"	Single-blade mower
	7	7	Gear				38"	
ARIENS	800	8	Gear	6 Fwd. 1 rvs.	No	Mnl		
BOLENS	HT-18	Twn.	Hydro w/foot cont.	0-8 MPH	Yes	Hyd	54"	Gear-drive mower
	QT-16	Twn.	Hydro w/foot cont.	C-8 MPH	Yes	Hyd	48"	Meets Chicago noise law
	H-16	16	Hydro w/foot cont.	C-8 MPH	Yes	Hyd	42"	Overhead-valve eng.
	G-14	14	Gear	6 Fwd. 2 rvs.	Yes	Mnl	42"	Overhead-valve eng.
	G-14 G-10	10	Gear	3 Fwd. 1 rvs.	No	Mnl	38"	Manual range change
	G-10	8	Transaxle	3 Fwd. 1 rvs.	No	Mnl	32"	Belt-drive mower
CASE	446	Twn.		2 Range	Yes	Hyd	48"	High-clearance
		16	Hydraulic	2 Range	Yes	Hyd	48"	High-clearance
	444	14	Hydraulic	2 Range	Yes	Hyd	48"	Low-profile
	224	14	Hydraulic	2 Mange		Ont		
	222	12	Hydraulic	2 Range	Yes	Hyd Opt	48"	Low-profile
	220	10	Hydraulic	2 Range	Yes	Hyd Opt	44"	Low-profile

	220	10	Hydraulic	Z Mange		Opt			
			0	4 Fwd. 1 rvs.	No	Mni	44"	Low-profile	515
	210	10	Gear	1 Range	Yes	Mnl	34"		315
	118	8	Hydrostatic	3 Fwd. 1 rvs.	No	Mnl	34"		315
	108	8	Gear		Yes	Hyd	46"	Triple hyd, avail.	NA
OHN DEERE	140	14	Hydrostatic	0.5 to 6.75		Elec	46"	Elec. impl. clutch	NA
	112	12	Transaxle	4 Fwd. 1 rvs.	No	Marila	9" 8 46	"Variable-speed dr.	NA
	110	8/10	Transaxle	4 Fwd. 1 rvs.	No	Mnl	34"	Vallesia	461
	70	7	Transaxle	3 Fwd. 1 rvs.	No	Hyd	60"	Spur-gear dr. to axle	710
ECONOMY	Jim Dandy	14	Gear	3 Fwd. 1 rvs.	No	Ont	THE REAL PROPERTY.		To the second
				Alexa Lim Dondy	different	gear ra	itios, of	her details are same)	931
	Power King	14	(Larger tractor	than Jim Danuy, C		Litural 1	42"	Rear-discharge mower	746
GILSON	53015	16	Hydrostatic		Yes	Hyd	42"	Real algerra	686
0120011	53014	16	Transaxle	Variable 4-sp.	No	Mnl	42"		651
	53013	10	Transaxle	4 Speed	No	Mnl	36"	Low-profile	480
	8-HP LoPro	8	Disc drive	Single lever	Yes	Mnl			950
- ADAMET W	816	Twn.	All gear	8 Fwd. 8 rvs.	Yes	Hyd	50"	Single-lever control	330
GRAVELY	910	16.5	All Boo.				50"	Single-lever control	900
	432	14	All gear	4 Fwd. 4 rvs.	Yes	Mnl	50"	Single-lever control	900
	430	12	All gear	4 Fwd. 4 rvs.	Yes	Mnl	50"	Single-lever control	900
	424	10	All gear	4 Fwd. 4 rvs.	Yes	Mnl	34"	Siligie-level sollies	372
	408	8	Gear	4 Fwd. 4 rvs.	Yes	MnI		FRE OTD FOOT	900/Mwi
HOMELITE	T-16-H	16	Hydrostatic	0-7 Fwd.	Yes	Elec	48"	PTO, FRT, CTR, rear	875/Mw
HOMELITE	T-16-S	16	Shuttle	4 Speed	Yes	Elec	48"		850/Mw
	T-10-3	10	Transaxle	2 Range	No	Mnl	42"		480/MW
	T-8	8	Transaxle	3 Fwd. 1 rvs.	No	Mnl	36"		450/Mw
	T-7	7	Transaxle	3 Fwd. 1 rvs.	No	Mnl	32"		
				3 Fwd. 1 rvs.	No	Hyd	60"	Commercial tractor	1630
INTERNAT'L HARVESTER		15	Spur gear	0-8 MPH	Yes	Hyd	48"		690
	149	14	Hydrostatic	0-8 MPH	Yes	Mnl	48"		670
	129	12	Hydrostatic	0-8 MPH	Yes	Mnl	48"		660
	109	10	Hydrostatic	3 Fwd. 1 rvs.	No	Mnl	48"		650
	128	12	Gear	3 Fwd. 1 rvs.		Mnl			630
	108	10	Gear*	3 Fwd. 1 rvs.		Mnl	_		570
	86	8	Gear	3 Fwd. 1 rvs.	No	Mnl	_		430/Mw
	76	7	Gear	3 FWU. 1 TVS.	110		_	THE RESIDENCE OF THE PARTY OF T	

side and lets you work close and narrow, right or left.

Smaller, 10-14-hp tractors. They, too, have all the safety features in '73. They all cut grass, but if plowing or blowing snow is your need, don't expect too much from eight and 10 hp. Letters from readers indicate that expectations are often unrealistic. Such tractors are great for six inches of fresh snow on the walk or drive, but not very useful on four- or five-foot frozen drifts. A walk-behind plow may be better.

Things to look for in a small lawn tractor:

 Nimble steering and handling. These are the keys to satisfaction. Try before you buy . . . on your lawn!Gear handling. Direct forward

and reverse without jogging through shift gates saves time and nerves. Try

one of the new shuttle drives, no clutch/direct reverse: Gilson, Simplicity, Allis-Chalmers, Homelite, Or. Jacobsen, Ariens, or Gravely.

 Forward-speed selection. Twospeed drive is only for economy models. Three or four forward speeds is safer; allows creeping in hazardous spots; steps out for fast cutting.

• Blade access. Try blade removal with deck in place; can you remove for sharpening quickly and comfortably?

• Details. Will spilled fuel puddle, hit exhaust? Does exhaust exit near your foot? Is shifting sure, smooth, positive? Do you have to look down to locate gear position?

One of the handsomest new eighthp rigs we've seen is Gilson's lowprofile tractor. Shifting is smooth and non-blocking; user posture makes sneaking under tree limbs less hazardous; and quality is excellent. If you don't want to buy it, don't let your wife see it-she'll love it. Other interesting eight-hp tractors... Gravely's 408, Case's 108 with 34-inch deck and rubber-mounted engine; J.C. Penney's with 38-inch deck, lights, balljoint steering, and variable-speed transmission.

While shopping, pick up Toro's "Guide to Lawns and Mowers." This book, although it displays (naturally) the Toro line, has a wealth of common-sense, solid information on suiting a mower to your needs, grasscutting techniques, lawn care, and mower maintenance.

The riders. This field is bulging with new 25-inch five-hp models at highly competitive prices. Here, shopping [Continued on page 162]

ORS						
SPEED RANGE	DIRECT	ATT. LIFT	MAX, CUT ROTARY	COMMENTS: SPECIAL FEATURES	WEIGHT (LBS.)	
2 Range	Yes	Hyd	50"		850	
2 Range	Yes	Hyd	50"	Opt, rear PTO	850	BOLENS OF 16
2 Range	Yes	Mnl	50"	Opt. 5-speed gear dr.	850	The same of the sa
4 Fwd. 1 rvs.	No	Mnl	42"		830	
2 Range	Yes	Hyd	48"		720	
Variable dr.	No	Mnl	42"		685	
2-6 MPH	Yes	Mnl	34"		455	
3 Speed	No	Mnl	34"		455	
	Yes	Hyd	48"		894	
4 Sp. varia.	No	Hyd	48"		870	

Bolens QT-16 speaks softly but carries a big stick. Large powerful engine is fully enclosed; tractor meets '75 noise specs.



Roper's 13-hp tractor does the mowing while a Litter Whisk sweeper follows behind, picking up clippings and yard debris.



Front-mount mower is handy option on 14horse Gravely. Single-lever control allows instant forward and reverse.

LAWN	& GA	RD	EN TRAC	TORS					
MFG. or SELLER	NAME & MODEL	НР	TRANSMISSION MECH., HYDRO, OTHER	SPEED RANGE	DIRECT REVERSE	ATT. LIFT	MAX, CUT ROTARY	COMMENTS: SPECIAL FEATURES	WEIGHT (LBS.)
JACOBSEN	GT-16	16	Hydrostatic	2 Range	Yes	Hyd	50"		850
JACOBSEN	GT-14	14	Hydrostatic	2 Range	Yes	Hyd	50"	Opt. rear PTO	850
	GT-12	12	Hydrostatic	2 Range	Yes	Mnl	50"	Opt. 5-speed gear dr.	850
	GT-10	10	Gear	4 Fwd. 1 rvs.	No	Mnl	42"		830
MACCEY	MF 14	14	Hydrostatic	2 Range	Yes	Hyd	48"	Constitution of the Consti	720
MASSEY FERGUSON	MF 12G	12	Gear 4-speed	Variable dr.	No	· Mnl	42"	Part Control of the Control	685
FERGUSUN	MF 8	8	Hydrostatic	2-6 MPH	Yes	Mnl	34"		455
	MF 7	7	Gear	3 Speed	No	MnI	34"		455
HONT		16			Yes	Hyd	48"		894
MONT.	33160	16	Hydrostatic Gear	4 Sp. varia.	No	Hyd	48"		870
WARD (Partial	33155 33130	12	Gear	4 Speed	No	Mnl	48"		837
Listing)	1415	10	Gear	3 Speed	No	Mnl	36"	Side or rear dis.	515
isting)	1410	8	Hydrostatic	Обреси	Yes	MnI	36"	Rear discharge	415
MTD	143-990	16	Hydrostatic		Yes	Hyd	42"		875
AWN FLITE	143-960	16	Transaxle	4 Speed	No	MnI	42"		835
	143-860	10	Transaxle	4 Speed	No	MnI	42"		790
	143-760	10	Transaxle	3 Speed	No	Mnl	42"		425
	143-660	8	Transaxle	3 Speed	No	MnI	34"		467/Mw
J. C. PENNEY	Penncraft	8	Belt	Varia, speed	No	MnI	38"		NA
. O. I LINIVE	Penncraft	8	Belt	Varia, speed	No	MnI	34"		NA
ROPER	Twin 16	Twn.	Gear	8 Spd. 2 range	No	MnI	48"		NA
-	Straight 16	16	Gear	8 Spd. 2 range	No	Mnl	48"		NA
	RT-13	13	Gear	6 Spd. 2 range	No	MnI	48"	Walter State of the Control of the C	NA
	RT-10	10	Gear	6 Spd. 2 range	No	MnI	38"		NA
	RT-8	8	Gear	6 Spd. 2 range	No	MnI	38"	Also in manual start	NA
RUGG	6793-E	10	Gear	4 Fwd. 1 rvs.	No	MnI	36"		452/Mwi
	6783-E	8	Transaxle	3 Fwd. 1 rvs.	No	MnI	32"	Also in manual start	389/Mw
SEARS	SS-16	Twn. 16	Gear	6 Fwd, 2 rvs.	No	Mnl	48"		675
	ST-16	16	Gear	6 Fwd, 2 rvs.	No	Mnl	48"		670
	ST-12	12	Gear	6 Fwd. 2 rvs.	No	Mnl	48"		625
	ST-10	10	Gear	6 Fwd. 2 rvs.	No	Mnl	38"		560
	LT/8E	8	Transaxle	3 Fwd. 1 rvs.	No	Mnl	36"	Also in manual start	350
SIMPLICITY	4041	Twn. 19.5	Hydro plus gear	3 Range	Yes	Hyd	60"	Commercial tractor	1390
	Sovereign	16	Hydrostatic		Yes	Hyd	48"	Also with shuttle dr.	NA
	Landlord	10	Shuttle	4 Speed	Yes	MnI	42"	Also with 3-spd. gear	NA
	Broadmoor	8	Gear	3 Fwd. 1 rvs.	No	MnI	36"	Synchrobalanced eng.	NA
WHEELHORSE	Yeoman 18 Auto	Twn.	Gear Hydrostatic	3 Fwd. 1 rvs.  Transaxle	No Yes	MnI Hyd	60"	Splined rear PTO & hitch	NA NA
Wheelhorse	16 Auto	18	Hydrostatic	Transaxle	Yes	Hyd	48"		NA
also offers	GT-14	14	Hydrostatic	Transaxle	Yes	Hyd	48"		NA
three 8-hp	14 Auto	14	Hydrostatic	Transaxle	Yes	MnI	48"	Hyd. lift opt.	NA
gear-drive	14 8-Speed	14	Gear	6 Fwd. 2 rvs.	No	MnI	48"	Elec. lift opt.	NA
tractors and one 7-hp	12 Auto	12	Hydrostatic	Transaxle	Yes	MnI	48"	Hyd. lift opt.	NA
	12 8-Speed	12	Gear	6 Fwd. 2 rvs.	No	MnI	48"	Elec. lift opt.	NA
	10 Auto	10	Hydrostatic	Transaxle	Yes	MnI	42"	Hyd. lift opt.	NA
	10 8-Speed	10	Gear	6 Fwd. 2 rvs.	No	MnI	42"	Elec. lift opt.	NA
YARDMAN	3640	10	Transaxle	3 Fwd. 1 rvs.	No	MnI	36"	Side or rear discharge	NA
	3630	8	Transaxle	3 Fwd. 1 rvs.	No	MnI	36"	Side or rear discharge	NA
	3620	8	Hydrostatic		Yes	MnI	32"		NA ·
	3610	8	Gear	4 Fwd. 1 rvs.	No	Mnl	32"		NA
	3600	7	Gear	4 Fwd. 1 rvs.	No	MnI	32"		NA



#### The '73 Mowers, Riders, and Tractors

[Continued from page 129]

for quality details is essential. Some models are at best "competitive leaders." Be realistic about five-hp mowers. If your lawn tends to have heavy, dense grass for at least part of the season, it takes all you can pull from five hp to swing the single-blade cutter. In part, this is because of the greater blade radius. Expect to do a valve job on the engine after the second year of use. Plan on a new short block after the third year. Our experience suggests that the extra cost of a sevenor eight-hp rider is more than justified by user happiness.

Riders with headlights-Roper, Wards, Rugg, and Murray-make sense. Grass experts advise late-afternoon cutting to avoid sun-browning. Evening cutting is practical.



For smaller lawns, a five-horse mower with 25-inch deck is handier than a bigger model. This is a Penncraft from J.C. Penney.



Simplicity Wonder Boy is outstanding for safe design, well-arranged controls. tional hopper behind holds five bushels.



Massey-Ferguson seven-horse mower can do a real clean-up job with optional sidecar grass catcher. Holds over five bushels.

The natural use of riders on smaller, tightly cornered, and landscaped lawns makes quick shifting and reversing even more important. Several new models avoid the annoying gearblocking problems of conventional Simplicity's new eight-hp Wonder Boy and Homelite's eight-hp rider are good examples.

Walk-behind mowers. Lawn Boy commendably uses a flexible, heavyrubber rear deflector rather than the hinged metal plate that has been a bane to users long used to pulling a mower backwards. The plates dug in, flopped under, the only safe procedure being to stop the engine and swing the deflector back by hand.

Other safety improvements are apparent on most of the walk-behinds. Nearly all controls have been moved to the handles. MTD has a unique seven-position height control on their 21-inch rotary using a single lever to raise and lower a secondary deck inside the main deck.

Toro's walk-behinds offer a cutting blade with 3/8-in. forward tilt to minimize impact on grass blades; an oil pump that keeps working even on hills; and vinyl-coated control cables. There is a move to more self-propelled rotaries, and the need here is always to match the mower speed to the natural pace of the user. Throttle control is not satisfactory, since often the heaviest cutting is done at slow forward speed, and engine/blade speed should be kept high. Two-speed drives, or three-speed such as Jacobsen's "Pace Command," help a lot.

We've listed some of the tremendous number of tractors and their features. Prices, however, tend to be very much a matter of time, place, and where you buy. We recommend shop-ping around. But remember—unless you are totally able to service your own mower, don't overlook the authorized dealer with full shop and parts capability. He may not always cut the initial price to the bone, but he'll be there when you need him.



Yardman Super Mustang is tremendously improved version of a popular mower with beefed front end, geared steering.