Pull Stumps The Easy, Practical Wa

Changes Speed While Pulling a Stump

sensible, economical way—the way that has protical under all conditions. One man handles and the KIRSTIN—NO HORSES REQUIRED. And yet it is easier for a man to use the KIRSTIN—it is LESS and EASIER WORK than with any other Puller or by any other method. The improved double leverage KIRSTIN, the new short lever model, stands the extreme tests of the very hardest stump pulling. The KIRSTIN'S wonderful compound leverage principle makes any man master of the tough atumps anywhere. In addition to its practically unlimited power, the KIRSTIN Changes Snaed While Pulling

Clear Over An Acre From One Anchor

easy, to lever brings at mush, etc trees, hedges, brush, etc The KIRSTIN gives yo also has surplus streng; also has surplus streng; also has surplus streng;

You Need a KIRSTIN

The KIRSTIN Iron-Clad Guarantee







Horse or Tractor Power?

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conditions: it is easily put out of commission by vibration or concussion and altho rated to deliver a certain horse power at the draw bar, does not do so unless it is on firm ground. When a horse gets on soft ground we excuse him from delivering power at the traces and let him get himself out; when the tractor gets into a similar position it digs itself in deeper and uses all its power to sink itself further into the ground. The tractor fails in handiness; it rapidly depreciates; it does not reproduce itself; its use upon the land tends to impair the mechanical condition of the soil, and it is very hurtful to roads; the necessary fuel supply has to be bought for cash and is very uncertain in price.

After examining the demerits of both animal and mechanical tractive power it is plain that there is plenty of room for improvement. The fact should be horne in mind that tractive power is a big expense in farm operation; some authorities, notably the Minnesota Station, have figured it at 10 per cent. of the total cost of operating a farm. On small farms, where a proportionately large number of horses are kept or a big tractor, it is higher, on farms where the acreage is large in proportion to the horse power used for the work done or returns, it is usually smaller.

Horse breeders should recognize that much of the argument for tractors lies in the fact of extravagant use of, or unwise use of, horses; in the fact that horse power expense is so often out of proportion to the work accomplished. This is due to a failure to appreciate the cost of keeping idle horse power, to a disinclination to put horses on an absolute business hasis, to a general low average of efficiency in doing farm work with horses, due to the horse lacking in ability to do the work with 160 per cent. efficiency and to the driver being willing to do less than a full day's work after a full day's expense has been expended upon horse power. When comparisons are made they are generally as between a thoroughly efficient tractor and horse power for a p

Deciding on the Motive Power

In our present state of indifferent use of horse power and disregard for the cost of it on the one hand, and on the other the obvious deficiencies of mechanical traction, the choice of power used must be determined by individual conditions rather than by the unquestioned advantages of one power or the other for all kinds of work. Very apparently there is a place for unquestioned advantages of one power or the other for all kinds of work. Very apparently there is a place for mechanical traction on many farms, but it is just as apparent that tractors cannot supersede horses as the universal farm motive force. Perhaps the place the tractor should take is already conceded to it and possibly we expect more than it will be able to give. In one branch of farming operations mechanical power easily has a superiority over animal and that is for light road work. We have seen automobiles, by sheer efficiency, take the place of horses for pleasure driving and for passenger conveyance, and we have been ready to concede to the mechanical tractor the probability that it could as readily take the place of horse power at farm work. Perhaps it may. In some aspects of farm work it may be able to demonstrate its superiority as it has in speed upon the road, and if that time ever comes we shall see a remarkable falling off in sentiment favorable to horses. For the immediate future, however, horse breeders may keep their advantage by methods of farm management that will tend to keep down the cost of horse power and keep up its efficiency. Some of these methods are:

(a) A close relationship between the horses kept and the work to be done.

horses kept and the work to be done

(b) An increase in horse efficiency by raising the standard of work horses, and adapting machinery and work to the horse power available.

(c) A careful distribution of work thruout the year.

'(d) The practice of economy in freding and care.

(e) The keeping for farm work the

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