

agricultural automation

Studies have shown that the human body is most susceptible to vibration frequencies in the same range as the predominant frequencies occurring on most tractors. A new hydraulic suspension system developed in the Division acts as a sort of shock absorber to raise or lower the seat automatically so that the tractor's vertical acceleration on the operator is virtually eliminated at all times.

Other typical projects which will be investigated are: automatic control of the load on tractor engines in order to reduce fuel consumption and to increase machine life; automatic control of grain and forage handling, including drying equipment; feedlot automation, and the weighing and mixing of rations and feed handling.

"The NRC Negotiated Development Grant came at an opportune time," says Dr. Wilson. "Our Division had a program in existence and the increased level of funding has allowed us to step up our activity by several fold. We have been most encouraged by the progress which has been made during our first year and by the response we have received from the agricultural industry. We feel we have the competence and facilities to make a significant contribution to Canadian agriculture." □ Earl Maser

Instrument for measuring the slip of the drive wheels of a farm tractor ("Slipmeter") developed by the Division of Control Engineering, University of Saskatchewan. A "fifth wheel" assists in generating signals proportional to the apparent and actual ground speed of the tractor. The per cent of slip is determined electronically and a direct digital readout is displayed to the operator at all times.

Dispositif mis au point par la Division des techniques de commandes de l'Université de la Saskatchewan et permettant de mesurer le glissement des pneus d'un tracteur. Un capteur monté sur une "cinquième roue" émet des signaux correspondant aux vitesses apparentes et réelles du tracteur. Le pourcentage de glissement est déterminé électroniquement et apparaît sous forme numérique sur le tableau de bord.



The operator drives the master tractor (right) while the slave tractor follows behind and to one side, doubling the amount of work done. The tractors, both pulling cultivators, are linked by a cable through which electronic signals automatically control the speed and steering of the slave vehicle.

Le tracteur asservi suit le tracteur de commande (à droite), doublant ainsi le travail accompli. Ces tracteurs, auxquels sont attelés des cultivateurs, sont reliés par un câble permettant de contrôler automatiquement la vitesse et la direction du véhicule grâce à des signaux électroniques.

