clude changing air and fuel filters, cleaning and adjusting injector nozzles, and adjusting engine timing. Another important part of tractor operation is checking fuel efficiency. This can be done at the time the tractor is operating on the PTO dynamometer. Fuel efficiency will give an idea of the engine's condition.

A tractor engine may be «modified» to get more power. Frequent claims about pulling bigger loads, getting new «life» from older models, and more power from new models are true. Engine modification can be done by several means. The most common is overfueling, while others include adding alcohol or LP gas (liquefied petroleum gas) injection, and turbo-charging naturally aspirated engines. The first problem is warranty. Most manufacturers do not allow any changes from standard specifications without voiding the warranty. The second problem with engine modifications is an almost sure reduction in service life. Tractors are designed to operate at different travel speeds, but the final drives are not designed for all possible torques theoretically available. Speed also has an effect on service life.

If more power is needed, it is better, financially, to trade for a bigger tractor. Larger tractors are built for higher power from the radiator to the wheels and should give good service. Trying to get more power by modifying a tractor may prove to be extremely expensive.

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FEASIBILITY STUDY OF AGRICULTURAL MACHINERY AND EQUIPMENT UTILIZATION EFFICIENCY

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Abstract. This article deals with importance of mechanization and good maintenance practices for efficient operation of all types of machinery agricul-

tural. Thoughtful implementation of efficiency improvements in agricultural equipment will help reduce the cost of food production and increase productivity and organization performance.

Keywords: mechanization, agricultural machinery, agricultural equipment, efficiency, maintenance of equipment, productivity.

Mechanized farm tools and equipment are becoming more prevalent these days for use as agricultural implements in farming. We have to keep in sync with technology to keep up with modern times and make the best use of them. There are lot of new developments in the farming sector that have an impact on crop production. This article gives a run through agricultural machinery and equipment utilization efficiency.

The agricultural efficiency can be improved by introducing latest agricultural implements on the field for the smooth cultivation of land. Moreover, taking care of the field and crops is equally important [1, p.79].

There is a strategy for reducing energy consumption of agricultural machinery. According to this strategy it is highly recommended to abide by the following rules:

- ✓ Reduce power and energy demand;
- ✓ It is important to improve and optimize the agricultural technology and system, radically reduce energy demand through the implementation of new technologies such as conservation tillage to reduce the compaction level of farmland, the oil usage, and the agricultural production cost.
- ✓ Improve the quality and reliability of agricultural machinery;
- ✓ The support of agricultural machinery manufacturing industry will also need to be increased, for example, by encouraging the expansion and technology development of industrial enterprises.
- ✓ Research and development efforts of agricultural machinery should also be increased;
- ✓ Research and extension of energy-saving technologies and new agricultural equipment's should be accelerated, by focusing on the development of high-performance, multi-purpose, new agricultural machinery and equipment's;
- ✓ Improve the operating efficiency of agricultural machinery.

To achieve the best outcome, the quality of agricultural machinery should be significantly improved, the structure of agricultural machinery industry should also be optimized, the utilization efficiency of agricultural machinery should be improved [1, p.85].

Impact of agricultural mechanization on production, productivity, cropping intensity is as follows.

Agricultural mechanization implies the use of various power sources and improved farm tools and equipment, with a view to reduce the drudgery of the human beings and draught animals, enhance the cropping intensity, precision and timelines of efficiency of utilization of various crop inputs and reduce the losses at different stages of crop production.

The end objective of farm mechanization is to enhance the overall productivity and production with the lowest cost of production. The contribution of agricultural mechanization has been well recognized in enhancing the production together with biological and chemical inputs of high yielding seed varieties, fertilizers, pesticides and mechanical energy.

Different researchers have concluded that farm mechanization enhances the production and productivity of different crops due to timeliness of operations, better quality of operations and precision in the application of the inputs [2, p. 110].

Level of agricultural mechanization provides the basic tools by which the inherent drudgeries and inefficiencies involved are reduced or eliminated in order to accelerate and enhance agricultural productivity.

And for these objectives to be achieved, agricultural machinery and post-harvest handling of agricultural materials must be well managed. Agricultural machinery maintenance is a vital aspect of agricultural operation. Agricultural machines operate in a most unpleasant environment and as such must be adequately maintained in order to perform its desired functions effectively. The service life and reliability of any machine in performing its desired function depends so much on how much maintenance practices were observed in operating such machine [2, p.115].

The importance of timely maintenance of equipment.

Every physical asset such as machinery put into practical use and service fulfills some specific functions, and failures of some components are inevitable. Thus, the maintenance of these assets is obvious.

- ✓ Maintenance is generally recognized as the single largest controllable cost factor in any production assembly and up till now represents a challenge leading the managements to reevaluate their maintenance strategies.
- ✓ Maintenance can be defined as the practice of keeping in form or shape of equipment's, machine system or object in its original status as much as possible.
- ✓ Note that maintenance is not repairing a machine after it breaks or when it stops work. It is a means of achieving optimum value for equipment in order to perform its desired and designed functions. Thus maintenance is protecting a machine so that it does not break down or wear out quickly.

There are many types of maintenance techniques: preventive maintenance, proactive maintenance, default type, discard type, offline and online type. Traditionally, maintenance is performed in either time based fixed intervals, called preventive maintenance, or by corrective maintenance.

Objectives of Good Maintenance Practices include: to intervene before failure occurs; to do maintenance only when necessary; to reduce number of failure and shutdowns; to reduce maintenance cost and cost due to production lost; to increase life of equipment; to reduction in inventory cost / effective inventory control [3, p.131].

In conclusion, mechanized agriculture is the process of using agricultural machinery to mechanize the work of agriculture, greatly increasing farm

worker productivity. In modern times, powered machinery has replaced many farm jobs formerly carried out by manual labour or by working animals such as horses. Current mechanized agriculture includes the use of tractors, trucks, combine harvesters, countless types of farm implements and other vehicles.

Besides improving production efficiency, mechanization encourages large-scale production and sometimes can improve the quality of farm produce. On the other hand, it can displace unskilled farm labour and can cause environmental degradation (such as pollution, deforestation, and soil erosion), especially if it is applied shortsightedly rather than holistically. Therefore, it is necessary to rationally and effectively use agricultural equipment and carry out maintenance in time.

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ЦИФРОВИЗАЦИЯ СЕЛЬСКОГО ХОЗЯЙСТВА: ШАНСЫ, РИСКИ, АСПЕКТЫ

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Аннотация. В статье рассматривается проблема цифровизации, связанная с внедрения IT-технологий в АПК.

Ключевые слова: цифровизация, сельское хозяйство, цифровая инфраструктура.

В современном мире цифровое сельское хозяйство представляет собой новый технологический уклад, обеспечивающий применение цифровых технологий на всех этапах производства сельскохозяйственной продукции и управления агропромышленным комплексом. Независимо от структуры и размера предприятия, различные новые цифровые и аналоговые комбинации инструментов дают возможность активно строить и поддерживать устойчивое сельское хозяйство.