Література:

1. Hotel business - business is associated with the provision of services in the hospitality sector and is focused mainly on meeting the needs of tourists, including holidaymakers arriving for business purposes - https://vsetreningi.ru/schools/gostinichnyj_biznes/#ixzz6FkACZl00
2. Tourist - "citizen visiting the country (place) of temporary stay in health, cognitive, professional, sports, religious and other purposes without engaging in paid activities for a period of 24 hours to 6 months in a row or exercising at least one night.https://dic.academic.ru/"
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DEPENDENCE OF WHEAT DEVELOPMENT AND YIELD ON SOIL ACIDITY (ЗАЛЕЖНІСТЬ РОЗВИТКУ ТА ВРОЖАЙНОСТІ ПШЕНИЦІ ВІД КИСЛОТНОСТІ ҐРУНТУ)

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В статті наведено дані стосовно рівня кислотності українських ґрунтів, вплив кислотності на врожайність злакових культур, зокрема озимої та ярої пшениці, а також зміна рівня кислотності протягом останніх років.

Ключові слова: *рівень кислотності, продуктивність, пшениця.*

The article presents data on the level of acidity of Ukrainian soils, the impact of acidity on the yield of cereals, including winter and spring wheat, as well as changes in acidity in recent years.

Key words: *acidity level, productivity, wheat.*

Soil pH is a measure of the acidity or basicity (alkalinity) of a soil. Soil pH is a key characteristic that can be used to make informative analysis both qualitative and quantitatively regarding soil characteristics. pH is defined as the negative logarithm (base 10) of the activity of

hydronium ions (H+ or, more precisely, H3O+aq) in a solution. In soils, it is measured in a slurry of soil mixed with water (or a salt solution, such as 0.01 M CaCl2), and normally falls between 3 and 10, with 7 being neutral. Acid soils have a pH below 7 and alkaline soils have a pH above 7. Ultra-acidic soils (pH < 3.5) and very strongly alkaline soils (pH > 9) are rare.

Excessive soil acidity is one of the most important factors that can negatively affect plant development and limit agricultural production.

In Ukraine, soils with excess acidity are widespread in Polissya (Zhytomyr, Chernihiv, Rivne, Volyn, northern Kyiv and Sumy regions), Prykarpattia (Ivano-Frankivsk, Lviv region), the Carpathian Mountains and the northern Forest-Steppe. According to the State Agency of Land Resources of Ukraine, acidic soils in our country cover an area of about 9.5 million hectares.

1.8 million hectares have been identified in the Forest-Steppe zone. acidic soils. In recent years, the processes of soil acidification are manifested even in the agricultural landscapes of the steppe. The intensity of increasing the area of acidic soils ranges from 1 to 14% annually.

For the growth and development of most crops is most favorable close to neutral reaction of the soil environment. The most sensitive to soil acidity are sugar, table and fodder beets, alfalfa, sainfoin, cabbage. For them, the optimal soil pH is 6.5–7.5. These crops respond best to liming, even on slightly acidic soils. Wheat, barley, corn, sunflower, soybeans, peas, rapeseed, cucumbers, lettuce, and onions are sensitive to soil acidity. They grow best at pH 6-7 (barley, soybeans, peas - at pH 6.5-7) and respond well to liming of moderately and strongly acidic soils. Less sensitive to high acidity are rye, oats, millet, buckwheat, potatoes, flax, carrots, tomatoes. They can grow in a wide range of pH - 5-7.5, but the most favorable for their growth is pH 5.5-6.5. On strongly and moderately acidic soils, these crops respond well to the application of lime, which is due not so much to reducing soil acidity, but to improving the efficiency of nutrient use from soil and fertilizers.

Dependence of assimilation of basic nutrients on soil pH level

pH level	Nitrogen %	Phosphorus %	Potassium %
4,5	30%	23%	33%
5,0	43%	34%	52%
5,5	77%	48%	63%
6,0	89%	52%	77%

Most macro- and microelements are maximally available at an acidity of 6.6-6.9. Deoxidation of the soil by only one unit value (from 5.0 to 6.0) helps to increase yields by up to 50%. In acidic soils (pH 4.0-5.5) iron, aluminum and manganese reach toxic levels.

To get 1 ton of winter wheat harvest you need from 24 to 35 kilograms of nitrogen, 20 or up to 26 kg of potassium, 10-15 kilograms of phosphorus, calcium - 5 kg, about the same amount of magnesium and sulfur, 250 grams of iron, 80 grams of manganese and 55 g of zinc, up to 8 grams of copper and boron.

Soil acidification due to N fertilizer addition can influence crop production. Studies revealed a decrease in wheat yield with an increase in acidification. Acidification below pH 5.5 increased the solubility of soil Al3+ and Mn2+, and negatively impacted winter wheat growth and yields. In strongly acidified soils, Al toxicity causes reduced root growth and stunted plants. Low soil pH is also associated with low water uptake and nutrients (N, P, Mg, Mo) availability, which negatively influences crop production and profitability.

Soil pH in the 0- to 10-cm depth was significantly influenced by tillage, N and year, but not by treatment interactions. In this soil depth, soil pH significantly decreased

with increase in N rates and was below 5.0 under treatments receiving 135 and 180 kg N ha–1 crop–1. Soil pH in 10- to 20-cm depth was significantly different among tillage systems and N rates but not between years. There were no interactions among tillage, N rate, and year treatments on soil pH. Soil pH levels of all WW–SF treatments were lower than pH in the nearby grassland in 10- to 20-cm depth.Soil pH in 20- to 30-cm depth was also influenced by N rate and tillage systems, but not by year and interactions.

It is believed that for a wheat plant, nutrients will be optimally available at pH values in the range of 6.0-7.0. If the pH level is lower, then key nutrients will either be less available, or vice versa, will become toxic to the plant.

Wheat yield was not significantly influenced by total, winter, and spring precipitation of the crop year. However, variation in grain yield followed more closely the trends of spring precipitation than winter or total precipitation. Wheat yield was significantly influenced by tillage and N rate interactions with year.

Soil acidification was more rapid in surface 20-cm soil depth than lower soil depths, potentially influencing nutrient dynamics and wheat growth, development, and yield. Reduced-tillage practices such as disc and sweep plowing resulted in more acidification in the top 10 cm than conventional moldboard plow tillage. Besides, the continuous loss of SOC and soil N exacerbated the effects of soil acidification in the topsoil leading to a poor wheat yield response particularly at high N rate treatments. This study demonstrated the negative impacts of ammoniacal fertilizers on

soil pH and the need to monitor soil acidification and develop agronomic strategies to increase soil pH and sustainability of wheat production.

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GADGETS IN HUMAN LIFE
(ГАДЖЕТИ У ЖИТТІ ЛЮДИНИ)

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В статті описується роль гаджетів у житті людини, їх плюси та мінуси та взагалі яку користь вони несуть у наше життя.

Ключові слова: *спілкування, інтернет, смартфон*

The article describes the role of gadgets in human life, their pros and cons and in general what benefits they bring to our lives.

Keywords: *communication, internet, smartphone*

A few years ago, the boom of smartphones began, which began to rapidly replace keypad mobile phones. There has been an evolutionary change of species. Unusual devices looked absolutely incredible, the lack of buttons was so unusual. But large screens (compared to conventional phones), which took over almost all the functions of device management, turned out to be very “gluttonous”. The increase in the area of displaying information led to the rapid development of all kinds of software, which, in turn, spurred the use of more powerful processors