FORMATION OF PRACTICAL SKILLS OF SCHOOLCHILDREN AND IMPLEMENTATION OF THE PRINCIPLE OF LOCAL HISTORY PHYSICAL OBSERVATION AND EXPERIENCE

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ABSTRACT

This article deals with the formation of practical skills of schoolchildren and the implementation of the principle of local history of physical observation and experience.

Keywords: Process, teaching, experience, local history, nature, phenomenon, efficiency, intelligence, education, education, personality, motive, motivation.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The teaching process, which includes observations and experiments related to the scientific foundations of local history in the field of agricultural production, enriches the knowledge of students, helps to correctly understand the essence of daily observed natural phenomena, contributes to the successful assimilation of program material, and opens the way for a conscious choice of agricultural professions. In this regard, in many cases, it is methodically appropriate to use the example of physical experiments to make experiments related to agriculture. Of course, the results are even more effective if they are carried out in extra-curricular time, at the facilities. So, for the purpose of the study, we selected physical observations and experiments that affect the improvement of the connection of educational activities with extracurricular work of students in agriculture. A methodological system for using data from observations and experiments in the study of a physics course in a rural secondary school has been developed. These observations and experiments were carried out both at home and in the field, as well as on the school site, mainly with students in grades IX-XI.

It should be borne in mind that today's students of rural secondary schools are future agricultural workers: tractor drivers, waterers, field managers, foremen, accountants, agronomists, engineers, irrigators, meliorators. In Uzbekistan, these are the main professions in the field of agricultural production.

Training of qualified personnel on a scale that meets the needs of the Republic's agriculture is now one of the most important tasks, in which the school and, in particular, the physics course play a major role.

The formation of skills always affects the sensory, intellectual, motivational, volitional and emotional spheres of the individual, contributing to the correct methods of leadership to the education of those personal qualities that are used in this type of activity. Thus, in the process of mastering the skill, a person not only learns, but also inevitably brings up attentiveness, intelligence, observation, perseverance, initiative, hard work and other important qualities.

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When developing a system of local history observations and experiments in the process of teaching physics, we proceed, first, from the availability of school physical equipment, second, from the requirements for a physics teacher in the field of school physical experiment, and third, from the local history capabilities when conducting a school physical experiment. We believe that in many cases it is methodically appropriate to replace physical experiments with experiments related to agriculture. We selected local history demonstration and laboratory experiments that affect the practical training of students in the field of agricultural production.

The study of many phenomena in physics begins with observations. Here we gave tasks for observation: drying of the soil, watering of cotton, defoliation of cotton; experience: comparison of destruction of raw and dried clods of soil.

Students must explain the physical nature of the observed phenomenon. Such observations and experiments activate independent thinking of students, and the use of their data in the classroom revives the learning process, develops interest in the subject, as a result, students try to explain some phenomena from practical life, to establish a connection between them.

The teacher of physics can first of all show the practical application of the studied laws in agricultural production. We pursue this goal when performing a number of experiments. The tasks that are offered to the children have to be solved by engineers and agronomists, thereby showing the importance of these works for the agricultural farm. We usually emphasize the latter before carrying out such work in the introductory conversation. Let's explain what was said.

For rural secondary schools, it is advisable to introduce the concept of friction angle. For example, cotton seeds, if placed on a horizontal Board, remain at rest. If you gently lift the end of the Board, then at a certain angle of inclination, the body lying on the plane moves down. The angle at which the body begins to move is known as the friction angle. In the ninth grade, the formulation is given as follows: the numerical value of the coefficient of friction is equal to the numerical value of the tangent of the angle of inclination. The relationship between the coefficient of friction and the angle of inclination is observed in the cultivation of cotton. Depending on the size of the soil particles and the moisture content in the soil, the depth of the bed changes. Students of rural secondary schools often see that peeled cotton seeds, accumulating in piles, form various versatile cones depending on the tangent of the friction angle.

When going through the topic "Friction", it is useful to demonstrate the definition of the angle of the natural slope of loose bodies - the angle between the forming cone, obtained when pouring loose bodies from the highest height to one point. This has to be taken into account when cultivating cotton and other plants. Depending on the size of the soil particles and their humidity, the wings or blade of the cultivator's spud are selected and installed. In the simplest way, the angle of the cone of bulk seeds can be determined by having a rectangular vessel made of transparent glass (aquarium), using a plumb line, protractor, or ruler. We also conducted practical work on the topic "determining the coefficient of friction of bulk solids". For this purpose, a simple device was made. It consists of a rack with holders, a funnel and a board on which concentric circles with a radius of one to six centimeter divisions are applied. The board and funnel are arranged so that the rod is placed at the height of the cone when the seeds are poured. The coefficient of friction is determined by the formula: height " h "and base "1", calculated from the rod and the concentric circle.

After studying the material about molecular movement, it is advisable to conduct laboratory work based on the use of the sucking force of plants: "determining the timing of cotton irrigation by the magnitude of the sucking force of leaves", "norms of cotton irrigation taking into account temperature".

In irrigated agriculture, one of the main methods of agricultural technology that ensures high yields and early cotton harvesting is the correct and timely implementation of agricultural measures. Performing such work requires, in addition to agricultural skills, also physical knowledge. Questions in the "Heat" section serve as an important stage for the formation of agrotechnical concepts of students. The main material of the course requires the specification of certain concepts in relation to agricultural processes. For example, mulching the soil with dark impurities to increase its temperature before sowing, taking into account its heat capacity, determining the content of water vapor in the atmosphere and the temperature of the ground layer of air, etc.

When studying molecular physics and heat, students in rural secondary schools should get an idea of the physical patterns of crop growth. For example, their understanding of atmospheric phenomena that affect the soil, without which it is impossible to get high cotton yields, understanding the physical results of spraying or pollinating cotton with defoliants, and others. Much attention was paid to the study of atmospheric phenomena and atmospheric pressure. This is also necessary for a conscious attitude to the experiments of determining the timing of watering cotton by the magnitude of the sucking force of the leaves.

A number of tasks were based on questions about electrical phenomena that affect agricultural plants, the nature of biopotentials and bio-flows in plants, the effect of soil electrification on plant growth and development, and the effect of high-frequency currents and fields on plants. Knowledge about atmospheric electricity was also applied, and its influence on plant organisms and the electron culture of cotton was shown.

Industrial observations and experiments aroused great interest among students of experimental schools. Here are some of them:

1. Find out how humidity affects the behavior of cotton (X CL).
2. Determine the need for cotton to be watered by measuring the EMF of its leaves (x CL.).
3. How soil electrification affects the growth and development of cotton (x CL.).
4. Determine the need for cotton to be watered by the color of its leaves (XI CL.).

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