

8. Твій перший олімпійський путівник / [В. М. Єрмолова, Д. В. Белокуров, О. А. Шинкарук та ін.]. — К. : Олімп. літ., 2010. — 106 с.

9. 25 років разом. Олімпійська освіта / [за заг. ред. С.Н. Бубки, М.М. Булатової]. — К.: 2017. — 128 с.

10. Petrytsa P., Deka I., Ohnista K., OLYMPIC EDUCATION OF YOUTH STUDENTS OF THE INSTITUTION OF HIGHER EDUCATION Олімпійський рух на теренах України – минуле та сьогодення. Матеріали всеукраїнської наукової конференції. За заг.ред. Огністого, А.В., Огніста К.М. – Тернопіль: В-во ТНПУ ім. В.Гнатюка, 2023. – С. 33–38.

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THE USE OF "BULGARIAN BAG" IN PHYSICAL TRAINING OF WRESTLERS

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Abstract. *The article analyzes the "bulgarian bag" as a simulator for physical training of wrestlers. The history of creation, design, features and advantages of using it for training are described. It is noted that the "bulgarian bag" is used as a highly effective and innovative training tool not only for wrestling, but also for other types of physical activity. Prospects for further scientific research are outlined.*

Key words: *"bulgarian bag", weighting, wrestling, physical training, training.*

Introduction. At the present stage of development of freestyle wrestling the growth of the level of professionalism is clearly traced which increases the spectacle of competitive fights. One of the promising directions of popularization of this sport is to increase the level of attractiveness of competitions by increasing the number of performances of supercomplex elements, grips, rolls, throws with high amplitude, which in wrestling are the leading structural elements of technical and tactical actions [2; 4; 5; 8].

Today, in the training of highly skilled athletes, there is often a tendency to use unconventional means and methods in sports training. Sports specialists, coaches and athletes are constantly looking for new and effective sports equipment, simulators, sports equipment [1; 3; 9; 10]. Ideally, equipment should be versatile, functional, efficient, and durable. The "bulgarian bag" meets all these criteria.

The purpose of the study is to analyze the "bulgarian bag" as a simulator for physical training of wrestlers.

Research methods: analysis of literary and Internet sources.

Results of the study and their discussion. "Bulgarian bag" (Bulgarian. Българска торба / Български чувал), also known as the Bulgarian training bag (болг: Българска тренировъчна торба) – is a crescent-shaped exercise machine used in strength training, plyometric weight training, cardiovascular training, and general fitness. The bags are made of leather or canvas and filled with sand; they weigh from 11 lbs (5.0 kg) to 50 lbs (23 kg) and have flexible handles, which allows you to train both upper and lower body, as well as develop grip strength [13].

A "bulgarian bag" is a crescent-shaped bag usually filled with sand. It is believed that exercises with a "bulgarian bag" are more physiological than exercises with other weights, since the structure of the sand is unstable, so training with a "bulgarian bag" involves more muscle and ligament groups, requires more effort, more energy expenditure, which is an advantage compared to conventional sports equipment of the same weight [9; 12].

The "bulgarian bag" was invented by former bulgarian Olympic athlete Ivan Ivanov [5]. Having established himself as a highly respected world-class athlete and 1996 Olympic medalist in Greco-Roman wrestling for his native country of Bulgaria, ten years later, in 2005, he presented the world's first "bulgarian bag" [12].

Mr. Ivanov was invited by USA Wrestling from Bulgaria to the U.S. Olympic Training Center in Colorado Springs, Colorado, to help coach and develop the U.S. National Greco-Roman Wrestling Program. He was working as an Olympic wrestling coach at the Olympic Training Center in Marquette, Michigan, and was looking for a training tool that would allow his wrestlers to improve explosive actions [6] and dynamic movements related to pushing, twisting, swinging, pulling, bending, rotating, squatting, lunging and throwing [12].

Innovations in sports-specific training. As he developed his programs, coach Ivanov realized that the training equipment available did not meet the requirements of training athletes for national and international high-level wrestling competitions - even at Olympic training centers. While working in the United States, the coach quickly focused on his vision of having not just mannequins for training, but all the necessary training equipment available in a wrestling room that could be safely used indoors and on mats without causing damage to either the athletes or the facility itself. This prompted Coach Ivanov to be creative and develop not only new training methods, but also the right type of wrestling training equipment that would be suitable for the highest levels of strength and conditioning training [13].

This is how the "bulgarian bag" was created with one goal in mind: to ensure high athletic performance. Drawing on his own experience as an elite athlete and then a gold-level coach at U.S. Olympic training centers, Coach Ivanov realized that the metal weight equipment commonly used in traditional training centers was neither practical nor functional as a complete training tool for building the type of core rotational force required for wrestling and other combat sports, and this led to the first major innovation in training [12].

The history of the "bulgarian bag". Ivanov was inspired by the tradition of shepherds performing strength exercises with sheep and goats at street fairs in his homeland, Bulgaria. The shepherds often had to carry lambs and weak sheep on their shoulders as they traveled with their flocks, in effect training. They also proudly demonstrated their strength and agility at fairs and festivals [13].

During traditional Bulgarian folk wrestling festivals, the winners are awarded prizes in the form of pets. After the final bout, the winner receives his prize (a lamb, sheep, ram or even a small calf), and then, according to tradition, he must "swing" the animal over his head to throw it over his shoulders and proudly walk through the audience. If the animal is too big or heavy, the winner is helped by the fans.

This first "champion's swing" to throw the lamb on the winner's shoulders became the basis for the vision, design, production and unique training methodology of the first "bulgarian bag" created by trainer Ivan Ivanov.

Ivanov based the design of his instrument on the body of a sheep in the form of a collar on the shoulders, and saw its use as a modern interpretation of an old tradition. This is where the old folk wisdom comes from: first you have to rock the lamb, and then you will become a lion" [12].

Although the "bulgarian bag" was originally developed for Olympic-class wrestlers, it has been used by fitness trainers and professional athletes for its ability to increase muscle endurance and make strength training more versatile [8]. One of the first advocates of the "bulgarian bag" outside of Olympic wrestling was retired fitness specialist Stephen Nave. Together with Ivan Ivanov, they created the International Bulgarian Bag Confederation to educate the public and offer advanced instruction for individual consumers, personal trainers, and fitness facilities.

Construction. The exterior of the "bulgarian bags" is made of leather or durable canvas. Leather bags are handmade in Bulgaria and are mostly made of goatskin. Since goat leather is thinner in thickness and the follicles are shallow, the strength of the leather is less compromised compared to other types of leather. The inside is filled with individually wrapped and weighed sand bags and stuffed with wool to form a smooth, rounded contour. Once filled, the main seam is closed with a soft, heavy-gauge nylon.

The outer part of the bag consists of three types of handles and straps that allow you to perform different types of exercises with different grips:

- the main handles are two holding points that taper towards the end of the bag and are used for swings and rotations;
- outer handles are three tube-shaped protrusions covered with goatskin that are located on the outer top of the bag; the center handle is installed between the two outer handles. The outer handles are mainly used to develop grip strength and upper body exercises;
- the third elements are called "straps" and are two nylon straps with loops sewn directly to the outside of the bag. They are approximately 12 inches long and are used to stabilize the bag on the shoulders during lower body training, as well as handles for arm exercises.

High-quality vinyl or canvas models are also available. The unique design is simple, safe, durable and fully portable.

The different models offer a variety of grip and handle options to suit different, specific training goals and comfort levels. The

different models are offered in a wide range of weights and sizes to suit all fitness levels - from world-class athletes to fitness enthusiasts, as well as children and youth.

Also, homemade "bulgarian bags" can be constructed from car cameras or children's inflatable toys [13].

Features. The entire line of "bulgarian bag" models has been fine-tuned by coach Ivanov to meet all training requirements when used in conjunction with his world-class Suples bulgarian bag training systems.

Designed to be safely used in any wrestling and/or combat sports training room with the ability to simultaneously train an entire team of up to 30 wrestlers or more, with a more productive result of performing daily training exercises to perfection. Thereby increasing the motor density of training and increasing the efficiency. In other words, the athletes take turns "approaching" the stationary machines, while the whole group can train with the "bulgarian bag" at the same time, which allows the coach to make individual adjustments to the technique of specific wrestlers necessary to achieve the desired results.

Variations. Depending on the size and fitness level of the person, Bulgarian bags are made in different sizes and weights: [12].

Table 1.

Options for manufacturing "bulgarian bags"

Weight	Color of the strap	Recommendation
5.0 kg (11 lbs)	Yellow	Athletes up to 50 kg (110 lbs)
7.7 kg (17 lbs)	Green	Athletes from 50 to 68 kg (110 to 150 lbs)
12 kg (26 lbs)	Red	Athletes from 68 to 86 kg (150 to 190 lbs)
17 kg (37 lbs)	Silver	Athletes 95-113 kg (209-249 lbs)
23 kg (50 lbs)	Brown	High level athletes

Usage. The complex of exercises and training with the "bulgarian bag" includes a large number of different elements. The bag can be used as a free weight in a variety of simple and dynamic movements, such as pushing, throwing, pressing, swinging and rotating, as well as added to your own body weight to perform

running, jumping, squats, push-ups, pull-ups and other strength exercises. Many sample workouts are available online [3; 9; 10; 12].

Training benefits. "The bulgarian Bag is a great tool to get the benefits of bodyweight training; but in a safe, practical and productive way when used in conjunction with the athletic design of Suples training programs. Just because you're strong in the gym doesn't mean you can handle this" [12]. The advantage of using a "bulgarian bag" is a better way to develop:

- functional muscle strength (as opposed to just lifting weights)
- speed, power and acceleration;
- muscle endurance;
- flexibility.

"The bulgarian bag is used as a highly effective and innovative training tool for:

- fitness
- warming up before training;
- exercises aimed at muscle development;
- muscle activation;
- rehabilitation.

Fitness benefits. The "bulgarian bag" strengthens and increases the muscular endurance of the hand, wrist, arms, shoulders, back, legs and rotational muscles. It also helps develop core muscles, coordination and improves overall mobility of the shoulders and joints. Due to its shape, material and design, the Bulgarian bag can be used to develop speed and agility in ways that massive iron weights and circuit training machines cannot.

Variable angular resistance. The "bulgarian bag" breaks with the tradition of static resistance devices such as free weights that are attached to a single plane of motion (i.e., create resistance by pushing or pulling weight away from or toward the body) by using acceleration and deceleration movements to swing and rotate the bag at different angles to the athlete's body. This causes the "bulgarian bag" to increase overall body strength and agility.

The multi-angle approach to gravity, momentum, and inertia in exercise is called variable angular resistance training.

Aerobic effect. After cardiovascular exercise or strength training, the body continues to require oxygen at a higher rate than before the start of the exercise. High-intensity training with a Bulgarian bag increases the metabolic rate higher than traditional strength

and cardiovascular exercises, as the exercises include both strength training and fast dynamic movements.

This post-exercise aerobic effect, originally called oxygen debt, was first described by A.W. Hill and H. Lupton in 1922 [11]. They suggested that the body needs to replenish the oxygen used by working muscles during moderate to intense exercise. Later, researchers used the term "post-exercise oxygen overconsumption" to describe the various events that occur when the body returns to homeostasis, or rest. The body's metabolic rate will be elevated for a longer period of time after high-intensity exercise. Depending on the level of stress and intensity of the exercise, the metabolic rate can be observed for 18-24 hours.

Safety precautions. Exercises with "bulgarian bag", like any other plyometric impact exercise, are associated with an increased risk of injury due to the high forces generated during acceleration and should only be performed by well-trained individuals or under supervision.

Since the handles of the "bulgarian bag" are flexible and not fixed rigidly to the body of the apparatus, it is more difficult for the lifter to transfer the weight of the apparatus to the muscles of the forearm and arm than with traditional iron kettlebells, and more stress is placed on the lifter's wrists. Therefore, for people with weak wrists, it may be advisable to use wrist bands to provide additional support.

Conclusions. Being a coach of the American Greco-Roman wrestling team, bulgarian wrestler Ivan Ivanov managed to develop a non-standard weight for wrestlers' training, which he called the "bulgarian bag". The "bulgarian bag" has a unique design that allows it to be used in more than 300 different exercises and is conveniently placed on the shoulders. Training with it helps to strengthen wrists, hands, shoulders, back and legs. The main advantage of such a bag device is the maximum naturalness and functionality of the loads, imitating the real movements of athletes during wrestling.

It is believed that exercises with a "bulgarian bag" are more physiological than exercises with other weights, since the structure of the sand is unstable, so training with a "bulgarian bag" involves more muscle and ligament groups, requires more effort, more energy expenditure, which is an advantage compared to conventional sports equipment of the same weight.

Although the "bulgarian bag" was originally developed for Olympic-class wrestlers, it has been used by fitness trainers and professional athletes due to its ability to increase muscle endurance and make strength training more versatile.

Prospects for further research are to study the influence of a complex of high-intensity interval exercises with a "Bulgarian bag" on the functional state of the cardiovascular system of freestyle wrestlers.

Literature.

1. Боротьба вільна: чоловіки, жінки. Навчальна програма для дитячо-юнацьких спортивних шкіл, спеціалізованих дитячо-юнацьких шкіл олімпійського резерву, шкіл вищої спортивної майстерності та спеціалізованих навчальних закладів спортивного профілю / В.І. Шандригось, В.В. Яременко, М.В. Латишев, Р.В. Первачук, В.Ю. Чікало. Київ: АСБУ, 2019. 155 с.

2. Тропін, Ю. М., Панов, П. П., Белобаба, С. Б. (2017). Фізична підготовка борців. Єдиноборства. 2017. № 3. С. 82-84.

3. Antony, V., Maheswri, M. U., Maheswri, U., Palanisamy, A. (2015). Impact of battle rope and Bulgarian bag high intensity interval training protocol on selected strength and physiological variables among school level athletes. 1(8), 403-406.

4. Bayraktar, I., Koc, H. (2017). A Study of Profile and Comparison for Turkish Greco-Roman and Freestyle Wrestlers Who Prepared for Rio 2016. Ovidius University Annals, Series Physical Education & Sport/Science, Movement & Health, 17(2), 190-199.

5. Connie Cook. The "Bag Boy of Fitness" Challenges You With Bulgarian Training. San Diego Downtown, Aug. 5, 2009.

6. Definitions of Weight Training Terms and Concepts URL: <https://www.weightcrafters.com/weight-training-terms/>

7. Latyshev, M., Latyshev, S., Korobeynikov, G. Kvasnytsya, O., Shandrygos, V., Dutchak, Y. (2020). The analysis of the results of the Olympic free-style wrestling champions. Journal of Human Sport and Exercise, 15(2), 400-410. <https://doi.org/10.14198/jhse.2020.152.14>

8. Kyle Brown. (2009). The Bulgarian Bag: Extreme Training for the Next Fitness Generation. *NSCA's Performance Training Journal*, Issue 8.3, pp. 11-12.

9. M. Tobibi Maki., Et al. (2021). Increasing Upper Body Strength of Wrestling Athletes through Bulgarian Bag Exercise.

Journal of Physical Education, Sport, Health and Recreation, (10)(2); 71-76.

10. Hany Abdel-Aziz El-Deeb (2017). Effect of bulgarian bag exercises on certain physical variables and performance level of pivot players in basketball. *Science, Movement and Health*, Vol. XVII, ISSUE 2 Supplement, September 2017, 17 (2, Supplement): 311-316.

11. Hill, A. V., Long, C. N. H. Lupton, H. (1924). Muscular exercise, lactic acid, and the supply and utilization of oxygen I-III. *Proceedings of the Royal Society of London. Series B*, Vol 96, pp.438-75. <https://doi.org/10.1098/rspb.1924.0037>

12. <https://suples.com/>

13. https://en.wikipedia.org/wiki/Bulgarian_bag

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THE FINANCIAL COMPONENT OF THE OLYMPIC MOVEMENT

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Анотація. У статті досліджена фінансова структура олімпійського руху та проаналізована комерційна діяльність МОК, що забезпечує його стабільність і фінансову незалежність.

Annotation. *The article examines the financial structure of the Olympic movement and analyses the commercial activities of the IOC, which ensure its stability and financial independence.*

Ключові слова: МОК, олімпійський рух, доходи, фінансова структура, комерційна діяльність, спонсорство.

Keywords: *IOC, Olympic movement, revenues, financial structure, commercial activities, sponsorship.*

Relevance. The effective operation of the international Olympic movement cannot be carried out without adequate funding. National Olympic Committees, organisers of the Olympic Games (OG), and Olympic athletes need financial