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## ORIGINAL RESEARCH

### STUDY OF THE METHODOLOGICAL ASPECTS OF THE PERFORMANCE BODYBUILDING PRECOMPETITIVE TRAINING

**Potop Vladimir** – Ecologic University of Bucharest, Faculty of Physical Education and Sport  
**Ulăreanu Marius Viorel** - Ecologic University of Bucharest

**Key:** *body building, competition, body weight, training, muscular mass, performance*

**Abstract.** The goal of the work is to deal with the contents of the pre-competitive training in the performance classic bodybuilding. With this aim in view we have considered that the utilization of a correct training methodology during the pre-competitive stage will result in the loss of weight and will bring into relief the muscular groups in the performance classic bodybuilding.

These problems determined us to organize a study of case within the School Sport Club (C.S.S.) no.5 of Bucharest, MATRIX gym, having as subject the sportsman C.M, aged 26, with a bodybuilding experience of 10 years, double national champion at classic bodybuilding, 180 cm class.

The results of the study emphasize a lowering and a decrease of the perimeters from one test to another, in parallel with the decrease of the pectoral musculature and lower limbs strength; in exchange, the strength of the back increases significantly.

These results prove that the body was in a perfect pre-competitive training condition and that the utilization of the proposed methodology helped to losing weight, maintaining and bringing the muscular groups into relief.

We mention that this proposed methodology is recommended only to the performers who have the possibility to transform the bodybuilding into “a life style”, to devote all their energy and time to the achievement of the high performance during long periods of life.

**Introduction.** The competitive bodybuilding is divided into two large categories: *professional and amateur*. There are several differences between the professional and amateur body building. In the first place, the prizes consisting of money and the sponsorship contracts are very much in professionals’ favor; they can live decently thanks to body building only, unlike the amateur bodybuilders who do not earn anything in competitions. In the second place, the professional competitions are carried out in open system, that means the athletes are not selected according to weight classes as in the amateur competitions and they are not submitted to anti-doping tests. So it is possible that a body reaches a weight of more than 130 kg on the stage, with a minimum percentage of body fat.

For being allowed to take part in a professional competition, an amateur bodybuilder needs to win the absolute title at the World Championships. That means the winners of each weight class meet together in the open class, and the best one will be awarded with the title of absolute champion and will receive the card of professional bodybuilder.

Nowadays there is a higher and higher interest in the natural bodybuilding. So in 2005 appeared a new branch of amateur bodybuilding, called „ classic bodybuilding”, for the persons who prefer, unlike the bodybuilders, to develop a less muscular body, but a pleasant one from athletics and aesthetic point of view.

**The goal of the work.** This study is meant to emphasize the contents of the pre-competitive training in the performance classic bodybuilding.

**Hypothesis of the work.** We consider that the utilization of a correct training methodology during the pre-competition stage of the competitive classic bodybuilding will lead to weight loss; in the same time, the muscular groups are maintained and brought into relief.

### Theoretical-methodical aspects of the training

The content of the training in bodybuilding is represented by the full achievement of the capacity of personal performance during the most important event. To this effect one can say that the sport training for the bodybuilding represents a process of quantitative and qualitative accumulation of the muscles and a process of adaptation of the body functions involved in the relationship “continuous and gradual physical effort – proper diet and medication– recovery and rehabilitation” with the purpose to participate in specific competitions (Bompa T., 2001; Dragnea, A., 1996; Nicu A., 1993).

The theory of the sport training *in bodybuilding* stipulates the division of the calendar year into the preparatory periods as follows:

1. The content of the preparatory period (accumulation) is focused on the strength development (this period can last from 3 to 6 weeks) and on the muscular mass increase (4-8 weeks);

2. The content of the pre-competitive stage focuses on the training for competitions, the definition of the muscular groups, the body weight loss; this stage could last 12-16 weeks;

3. The content of the competitive stage aims to the turning into good account of the sport (physical) fitness: it could last from 2 to 4 days;

4. The content of the transition period: a controlled getting out from the sport fitness condition and the recovery of the body weight: it can last 3-6 weeks.

There are several types of training for bodybuilding, based on specific rules, demands and norms. The training is conducted according to some instruction and performance objectives and it is improved by the combination with material factors (specialized equipment) and medical factors (medication specific to the muscular mass development, recovery after effort, time necessary for recovery). Thus, we could say that the training can be organized depending on the constitutional type of each individual but it also depends on the moment when the peak fitness is reached; the peak fitness can be programmed and safely reached once a year, depending on the main competition.

### STUDY ORGANIZATION AND CARRYING OUT

In order to point out the means of the pre-competitive training in the performance classic bodybuilding, we have conducted a study of case within the School Sport Club (C.S.S.) no.5 of Bucharest, MATRIX gym; our subject of study was C.M, aged 26 who had 10 years of bodybuilding experience and who was twice the national champion of classic bodybuilding, class 180 cm.

*Duration and stages of the study.* The study was carried out along three months (July, August and September 2008) including the pre-competitive stage for the participation in the seniors' classic bodybuilding national championship.

*Stages of the study carrying out:*

1. 1<sup>st</sup> stage – initial testing: July 1- 7, 2008.

2. 2<sup>nd</sup> stage - intermediate testing: August 11 – 17, 2008.

Between the initial and intermediate stage was applied the mezzo-cycle no. 1 and half of the mezzo-cycle no. 2

3. 3<sup>rd</sup> stage - final testing: September 18, 2008.

Between the intermediate and the final stage was applied the other half of the mezzo-cycle no. 2 and the mezzo-cycle no. 3

### Methods of research:

- *The theoretical documentation focused on:* the study of the specialty literature; study of the references with specific character;
- *Methods of investigation:*
  - Pedagogical observation – continuously applied during the training process.
  - Experimental study – applied for checking the elaborated hypothesis.
- *Methods of data processing* - used for supporting some important aspects of the scientific approach; we have used the statistical-mathematical and graphical method.

## METHODOLOGICAL CONTENTS OF THE PRE-COMPETITIVE TRAINING



**Training mezzo-cycle no.1** The pre-competitive training started 12 weeks ahead the competition; the main goal is the diminution of the fat layer and the preservation of the muscular mass; the passage from an alimentary program of 5 meals a day to one of 7 meals a day, in which was used a ratio of 55% proteins - 30% carbohydrates - 15% fats. Every 4 weeks, the training program was modified. Thus, the first month started with 2 days of training, a day of rest and each muscular group was trained every 6 days. In certain days the training was divided into two parts, one in the morning, the other one in the evening. During this period there were not performed aerobic exercises, but the training style was changed related to the extra-competition season: the number of exercises and repetitions increased and the pause between series shortened. This type of training maintains an average intensity, but a very high volume, so that the body starts to use the fat for energy.

Some of the *Weider principles* have been used for these training sessions, such as: *principle of the forced repetitions; pyramiding principle; continuous stress principle; peak contraction principle and decreasing sets principle.*



**Training mezzo-cycle no.2** Eight weeks left till the contest. The training is changed again. For a period of 4 weeks it will be as follows: 2 days of training, one day of rest, afterwards 3 days of training and one day of rest. In the pre-competitive training sessions will be introduced the aerobic exercises (bent walking on the tread mill, slight running on the tread mill). During the first week will be made 2 aerobic training sessions, during the weightlifting workouts pause, each one of 30 minutes. Afterwards, each week will have one more aerobic training session of 30 minutes, after the completion of the weightlifting workout. The Weider principles used for this type of training are the following ones: *supersets principles; compound sets principle; staggered sets principle; tri-sets principle.*

**Training mezzo-cycle no.3** Four weeks left till the contest. The physical aspect is studied in the mirror for finding out eventual problem-zones. The mirror shows if the athlete is massive, case in which he must increase the frequency of the aerobic exercises, or if he needs more muscular mass, case in which he must decrease the frequency of the aerobic exercises. A visual assessment requires experience. One must assess his muscles in an objective way and if there are any problems, a variety of solutions should be experimented. During these weeks one shall start the skin tanning in the sunroom and the exercises of isometric posture.

The isometric posture means only the contraction of the muscles in the seven compulsory positions and the maintaining of the respective contraction for 10-15 seconds. For example: double biceps for 15 seconds, rest for 10 seconds, three times repetition; a similar procedure will be applied for each outstanding compulsory position.

The instinct tells me that I must change the diet and increase the aerobic exercises frequency. Hence I shall adopt an alimentary program as follows: 70% proteins, 20% carbohydrates, 10% fats.



The training program shall be changed as follows during the next three weeks: 6 days of workouts, a day of rest, the last week being reserved to the release and intake of carbohydrates. The aerobic exercises will be made each day in the evening while the weightlifting workout will be performed in the morning. The following Weider principles will be used: *principle of partial repetitions; speed principle; pause-rest principle; principle of giant sets.*

**A week ahead the contest.** At this moment we are almost ready. The last week shall be divided into two halves: the first half includes Monday, Tuesday and Wednesday and the second half includes Thursday, Friday and Saturday. In the first half of the week the carbohydrates volume is reduced significantly and the proteins amount is increased.

Also, the bodybuilder will make a conscious effort to drink water as much as possible and to increase a little the sodium level in his diet. During the second half of the week, the carbohydrates consumption is increased while the proteins amount is decreased. On Thursday, the water intake is reduced up to 2 l, on Friday – up to 1 l, and on Saturday will be consumed only 0.5 l of water.

During these three days, the sodium will be completely eliminated from the diet and a supplement based on potassium and magnesium shall be introduced in order to make sure that the muscles will be defined and separated at the most.

## RESULTS OF THE STUDY AND THEIR INTERPRETATION

Table no.1. Results of the anthropometric measurements

Item	Tests	X	Am	S	Cv%	
1	Height (cm)	179.6	0.0	0.0	0.0	
2	Weight (kg)	88.0	4.0	4.90	5.57	
3	Thoracic perimeter (cm)	Breathing in	121.3	1.78	2.05	1.69
		Breathing out	115.6	1.78	2.05	1.78
		Amplitude	5.0	0.67	0.82	16.33
4	Waist (cm)	76.33	3.78	4.50	5.89	
5	Arms perimeter	Right	44.0	0.67	0.82	1.86
		Left	44.5	0.67	0.82	1.83
6	Thighs perimeter	Right	65.33	1.78	2.05	3.15
		Left	65.33	1.78	2.05	3.15
7	Shanks perimeter	Right	41.0	0.67	0.82	1.99
		Left	41.0	0.67	0.82	1.99

### Interpretation (Table no.1):

The athlete's *height* is 179.6cm, with an average *weight* of 88kg, making evident a progressive diminution by 6 kg at the intermediate testing and by 4 kg at the final testing; the *thoracic perimeter* while breathing in has an average of 121.3cm, pointing out a decrease by 3cm at the intermediate testing and by 2cm at the final testing; during the breathing out period, the average is 115.6cm, showing a decrease by 2 cm at the intermediate test and by 3 cm at the final test; the thoracic amplitude has an average of 5.0cm, indicating a decrease by 1cm at each test; the *waist* assessed while breathing in has an average value of 76.33cm, indicating a decrease by 6cm during the intermediate test and by 5cm during the final test; the *arms perimeter* for the right arm has an average value of 44.0cm, and the left arm 44.5cm, a high homogeneity, showing a decrease by 1 cm at each test; the *thighs perimeter* shows an equal average value for both thighs of 65.33cm, making evident a decrease by 3cm at the intermediate testing and by 2cm at the final testing; the *shanks perimeter* indicates an equal average value for both shanks of 41.0cm, pointing out a decrease by 1cm at each test.

Table no. 2. Control trials results

Item	Control Trial	X	Am	S	Cv%
1	Barbell bench press, maximum 12 reps	100kg	6.67	8.16	8.16
2	Pull-ups, maximum number of reps	24.0	2.67	2.94	12.27
3	Bar bell squats, maximum 12 reps	123.3kg	11.1	12.4	10.11

### Interpretation (Table no.2):

*Strength of the pectoral musculature:* it is assessed by the barbell horizontal bench press (execution of 12 reps at the most); the average is 100kg, showing a decrease of the weight by 10kg at each testing. The *strength of the back musculature* is assessed by a maximum number of pull-ups with large grip of the bar; it indicates an average of 24 pull-ups, showing an increase by 5 pull-ups at the intermediate testing and by 2 pull-ups at the final testing. The *strength of the lower limbs* is assessed by barbell squats: 12 repetitions are performed, with an average value of 123.3kg, pointing out a decrease by 20kg at the intermediate testing and by 10kg at the final testing.

## CONCLUSIONS

The bodybuilding is the process of musculature development by means of a combination of workouts with weights, the increase of the number of consumed calories and the rest. As a sport, the bodybuilders show their body in front of a group of referees who grant votes based on several criteria (muscular mass, definition, separation, symmetry, proportionality, etc).

This work originated from the conspicuous necessity felt by the subject of this study each time when the contest was getting closer and he was supposed to adopt a concrete, clear and efficient modality to get fast and safely in the optimum shape for contest. The specialty literature offers very poor information and strategies concerning the training methods in the pre-competitive stage of the classic bodybuilding.

The alternation of the anaerobic and aerobic efforts, of the specific and non-specific workouts – swimming, jogging, cycling – and the permanent lack of time for recovery make the performance bodybuilding an option hardly accessible even for the very keen persons who have other professional, cultural, etc. concerns.

The outcomes of the study regarding the anthropometric measurements point out a lowering and decrease of the perimeters from a testing to another one, in parallel with the decrease of the strength at the level of the pectoral and lower limbs musculature; in exchange, the back strength increases considerably.

These outcomes demonstrate that the body was in a perfect pre-competitive training condition and that the use of the suggested methodology helped to the weight loss, to the preservation and bringing into relief of the muscular groups.

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