

SOME INITIAL OBSERVATIONS ON THE NEW MEN'S JAVELIN

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“The new specification men's javelin, that is compulsory since April 1986, has been the subject of a number of discussions. We present here the opinion of a well-known and experienced coach who illustrates his point of view.”

Since 1984, I have been and, I must admit I remain, a critic of the way in which the rule-change, affecting the specifications of the men's javelin, was made in Los Angeles. This stems mainly from an ethical point of view, as well as the basic philosophy associated with the need for a change. However I must remain a realist. The rule is now with us, presumably to stay, and the good coach must explore the various avenues, within the rules, which promote the best results.

Many critics of the rule change expressed the opinion that it would ruin the sport for years. Others believed that it would force a radical change in throwing technique, making technique less effective and strength more a dominant factor, encouraging an even greater use of ergogenic aids.

As a coach who has researched javelin design, and one with a good appreciation of physics and biomechanics, I could not support these immediate subjective reactions. While, after one full season, it is still early days, and we all need more time to experiment and evaluate, I have



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seen little yet that will influence me to change from my original thoughts on the topic, which I describe below.

The basic factors affecting the flight range of the javelin still remain the same. They are: – speed of release, angle of release and an aerodynamic factor. All that the rule change has influenced is the aerodynamic factor. Only a very small part of this factor can be influenced by the thrower, the major portion being related to the manufacturer. Hence, all other things equal, the victor will still emerge as the athlete who can put the greatest speed in the javelin at release. This is still far and away the most dominant factor, and it is the one that should be the focal point of all training programmes.

So, in the light of just one season of throwing the new javelin what initial conclusions can be drawn: –

1. The rule change has mainly affected the second part of the flight, that aided by gravity. Once the pitching point has been reached, the javelin noses down very quickly, producing two immediate results: –

a) a decreased flight range of about 10% – 15%;

b) a steep landing attitude, with the point penetrating the earth, thus making it much easier for the field-event judge to decide the validity of the landing. This, in itself, must be good for any athlete. Indeed, during my observations, I have not seen one flat landing.

2. Since the javelin noses down quickly, the “float” phase has been almost eliminated. It was during the float phase that lifting “eddy” currents and cross winds could influence its flight. With the old pattern, long range, jave-

lins, the luck of hitting the lifting current frequently determined the flight range. The cross-wind effect is now almost completely nullified. During the downward flight, the new javelin is a poor aerofoil and will resist the effects of the cross winds to drift it out of the sector. Again, in all of the competitions I have observed, and even in my training at a very windy venue, I have seen hardly any drift out of the sector. This factor all athletes must applaud.

3. In terms of throwing technique, my observations indicate that there needs to be an increased angle of attack. In other words, the javelin needs to “nose up”, perhaps delaying the effect of the “pitching moment”. All long throws I have seen exhibit this trend. Whether the throwers are conscious of modifying their technique is open to debate. Certainly, with my group of men, we are exploring the ways of changing the angle of attack. Again, it is early days to decide which method is the most effective.

4. We have experimented with several gripping agents, in an attempt to impart a greater spin about the long axis of the javelin. This in practice will slow down the effect of the pitching moment, due to the gyroscopic action.

5. There is an obvious difference between the javelins produced by the various manufacturers. I believe that one company has just about got it right! Initially, all of the javelins felt strange when resting on the palm. This feeling gradually became less apparent with one javelin, yet remained with the others. Also, no matter how the javelins were released, the same javelins vibrated considerably about the long axis, suggesting that the material loca-

tion was not quite right. Again, the athletes have a simple remedy by making a wise selection of the implement they throw.

So, when you have finally come to terms with the fact that the flight range is going to be less, and the flight curve less aesthetic to the eye, all other things are a PLUS and will favour the good, consistent thrower. Less is left to the change of a lifting air current or the whim of a landing judge.

In concluding, I must pose the question of a likely change in the specifications of the women's javelin, since it has been subject to all of the aerodynamic exploitations that have caused the landing and floating problems of the old pattern 800 gm javelin. At the top level, such a change would be good. But please do not force all small clubs to spend their hard earned cash on restocking these as well!

