

Calculation method for the international ranking list

Postulate :

The force of an international competition must be determinate according to two criteria :

1. The number of fencers present ;
2. the value of the fencers present according to the IWFC ranking list.

At last, the duration of classification and the time factor does not have to exceed 2 years, allowing emergence of new fencers.

Calculation of the force of a competition :

Mode of calculation who take account of the quality of the fencers present and their number :

$$\text{Points} = \frac{\text{Force} \times 50}{16} \times \left(1,1 - \frac{\log(P)}{\log(N)} \right)$$

Where :

- POINTS is the number of points allotted to each fencer.
- P is the Place of the fencer to resulting from the competition.
- N is the Number of participating fencers to the competition.
- Force is the nap of the number of points that brings the fencers present according to the table following :
 - Fencers ranked from 1 to 4 bring 10 points
 - Fencers ranked from 5 to 8 bring 5 points
 - Fencers ranked from 9 to 12 bring 3 points
 - Fencers ranked from 13 to 16 bring 1 point

- This Force will be calculated according to the up to date IWFC ranking list at the date of competition.

- The maximum force is thus of 76 points (4x10 + 4x5 + 4x3 + 4x1) and we propose that a competition cannot have a force lower than 10 points this in order not to handicap the fencers in the event of weak participation.

EXAMPLES :

In the examples which will follow we compare the two modes of calculations on two competitions of World cup : Sword man category A and Saber man category B which proceeded in Budapest in July 2000.

Epee men category A :

20 fencers present.

Force of the competition 61 (3 fencers bringing back 10 points, 4 fencers bringing back 5 points, 3 fencers bringing back 3 points and 2 fencers bringing back 1 point).

Men Epee category A (Budapest 2000)		
Rank	IWFC Mode of calculation	New Mode of calculation
1	240	210
2	200	166
3	175	140
4	175	121
5	125	107
6	112	96
7	100	86
8	100	77
9	75	70
10	75	63
11	75	57
12	75	52
13	50	46
14	50	42
15	50	37
16	50	33
17	25	29
18	25	26

19	25	22
20	25	19

Men Sable category B :

12 fencers present.

Force of the competition 38 (2 fencers bringing back 10 items, 1 fencers bringing back 5 points, 4 fencers bringing back 3 points and 1 fencers bringing back 1 point).

Men Sable B (Budapest 2000)		
Rank	IWFC Mode of calculation	New Mode of calculation
1	230	131
2	187	98
3	155	78
4	155	64
5	92	54
6	77	45
7	62	38
8	62	31
9	30	26
10	30	21
11	30	16
12	30	12

Remarks :

In the Epee competition, there is a good participation and the presence of well representatives fencers (11 of the 16 first world ranking list fencers were present) ; In the Sable competition, there is an average participation and the absence of a certain number of fencers well classified in the ranking list (only 8 of the 16 first world ranking list fencers were present).

If we carry out a pure and simple comparison of the two modes of calculations, we note that the number of points allotted to the first of each competition is almost the

same with the IWFC mode of calculation. The new mode of calculation brings back the performance of the sabers and the epeists to their real value taking into account the involved fencers to each competition.

At last, the new mode of calculation takes better into account the quality of the fencers present. Thus, the competition of Sable or the participation and the level compared to the international classification are weak does not distribute as many points than the competition of Epee (more representative of the international level).

Time factor and coefficient of competition :

The old IWFC ranking list has a time factor too significant, with the edge effect that a good result with a competition on selection ensures a classification over 4 years (for instance, Arthur Bellance disappeared from the international circuit for more than 2 years and still classified). A fencer disappeared from the international circuit for more than 2 years (for some reasons that is) has no needs to appear in IWFC ranking list.

Here the amortization table of the competitions proposed until 2005 taking account of this parameter :

	Ranking list 2000/2001	Ranking list 2001/2002	Ranking list 2002/2003	Ranking list 2003/2004	Ranking list 2004/2005
JO Sydney	1	0.5			
World Cups 2000/2001	1	0.5			
Zones 2001		1	0.5		
World Cups 2001/2002		1	0.5		
World Championship 2002			1	0.5	
World Cups 2002/2003			1	0.5	
Zones				1	0.5

2003					
World Cups 2003/2004				1	0.5
JO Athènes					1
World Cups 2004/2005					1

Thus IWFC ranking list of a year do not hold any more that competitions of the current year (with a coefficient 1) and competitions of the past year (with a coefficient 0.5).

In addition, the coefficient of competition, historically allotted to the competitions on selection (Paralympic Games, Zones Championships and World Championships), is implicitly integrated into the new mode of calculation : The value of the competition is implicitly represented by the number of point which brings each fencer.

This coefficient being implicitly integrated in the new mode of calculation of the Force, we thus propose its pure and simple suppression in order to avoid a redundancy.

Analysis :

The new mode of calculation results in developing the presence of the fencers well classified and tends to create a "barycentre" effect : If we take old IWFC ranking list, the major part of best fencers is currently in the Europe zone. The open international competitions (as World cups) should see their stake increased by the need for the "weak" zones for bringing back points. Whereas the Zone championships remaining closed they do not substantially modify the ranking list.

This barycentre effect will have also hake for consequence to encourage the "weak" zones has to organize open competitions as World cups.

Conclusion :

By its mode of calculation, the redefinition of the time factor and the integration of the competition coefficient directly in the new mode of calculation, the system has several advantages:

1. Better adequacy between the level of the competition according to the force of the fencers present.

2. Reduction in the weight of the "old" competitions with a time factor brought back to 2 years maximum allowing emergence of new fencers in the international circuit.
3. Increase in the stake of the World cups by the barycentre effect.
4. Incentive with the organization of World cup by the same barycentre effect.

This new mode of calculation seems to have proven reliable with TRUSTS and could substantially improve the mode of classification of the athletes of the world circuit.