

Thoro-Graph

**The two most important questions in assessing a race are:
How fast has each horse run in the past? How fast is it going to run today?**

Thoro-Graph answers the first question by creating accurate performance figures. By placing the life history in figures on a graph, we allow you the opportunity to attack the second question with confidence.

Each number on a sheet represents a performance rating arrived at by using time of the race, beaten lengths, ground lost or saved on the turns, weight carried, and any effects wind conditions had on the time of the race.

All this information is refined with a carefully crafted track variant down to one number for each horse in every race. **The lower the number, the better the race.** With few exceptions there will be a figure for every race a horse has run for the last four years.

Thoro-Graph figures are represented numerically and in a clear graphical format that is easy to read and understand. The format makes it possible to compare horses that have run under different conditions, at different distances over different tracks, and on different days. A handicapper or horseman can examine each horse's history, form cycle, and relative ability in looking at today's race.

With a little practice, you'll be able to identify form cycles. Some run consistent patterns, varying from a simple good race/bad race pattern, bad race after an exceptionally good effort (the "bounce"), or more complex "circling" patterns where a horse gradually loses its form then slowly comes around toward its original level. Using our data it is possible to anticipate these moves and select horses which are not obvious to the general public. We also provide very sophisticated data that enables the handicapper to evaluate trainers and pedigrees when deciding how a horse will perform under different circumstances.

Of course there are infinite variations in how horses run and no two are alike. There are no hard and fast rules on how to interpret patterns and form cycles. Every handicapper will come up with his or her patterns they like or dislike. Some people will only bet longshots. Others just want to have fun and cash a race no matter what the return. Whatever your style, Thoro-Graph provides all you need to make you a better, more informed player.

It may take a little while to get the hang of our format, but you'll realize quickly **Thoro-Graph is everything you need to win.**

The Basics

The lower the number the faster the race. On our scale 1 point = ~1 length at 5 furlongs increasing to 2 lengths at 1 1/4 miles. Each sheet has 4 calendar years going back from right to left. The last race a horse ran would be the uppermost number in the right-most column corresponding to the horse's age.

5 pounds in weight = 1 point at all distances. The figures are adjusted for weight carried in previous races. If 2 horses run a TG figure of 10 today, a horse in at 115 will beat a horse in at 120 by 1 point, or 1 length at 5f.

Each path out from the rail (1 path) = 1 length of ground loss. Considering all else equal, in a 1 turn race a horse in the 3 path runs 2 lengths better than a horse on the rail.

Our figures aren't adjusted for horses that are off poorly or stumbled from the gate. Notations are made next to the figure.

Dirt figures $25^1 = 25 \frac{1}{4}$ $25^2 = 25 \frac{1}{2}$ $25^3 = 25 \frac{3}{4}$ Turf races are denoted by "-" e.g. -25 is 25 on the turf.

Typeface key

Races 5 1/2 furlongs and less are in *italic light face* e.g. 25^2 Races 6 furlongs to less than 1 mile are in light face e.g. 25^2
Races 1 mile to 1 1/8 miles are in **bold face** e.g. 25^2 Races more than 1 1/8 miles are in **italic bold face** e.g. 25^2

Race summary key

Up to 8 running lines are provided for each horse. From left to right, the running line denotes race date, track, race#, track condition, distance, time of race, race condition, finish position, beaten lengths, weight, odds, Thoro-Graph figure, path, and equipment/medication information. All trainer changes, not just claims, are listed.

<u>Summary code key</u>		<u>Track condition key</u>	
BAR	Barshoe or aluminum pad worn	gd	Good (dirt or turf)
bl	Blinkers	my	Muddy
f	Front bandages	sy	Sloppy
FC	Front caulks	wf	Wet fast
BC	Back caulks	sf	Soft
FBC	Front and back caulks	yl	Yielding
L	Lasix	❖	Synthetic Track
B	Bute		
N	Nasal Strip		

<u>Graph code key</u>				
st	Stumbled start or during race	T	Big trouble during race	time?
gate	Fractious gate or ran off	tu	Taken up, steadied, or checked	●
op-	Off poorly less than 2 lengths	X	Ran on a dead rail	▲
op	Off poorly ~2 lengths	\$	Heavily bet for no obvious reason	▼
op+	Off poorly 4 or more	!	Buried race faster than appears to public	■
rank	Erratic, buck jumped, jumped shadow	h?	Horse may not have been extended	◆
bled	Bled during race	h_pace	Unusually fast pace	
bi bo	Bore in bore out	s_pace	Unusually slow pace	
quit	Stopped - final figure not representative			

Auction Prices

The sale price for all thoroughbreds sold at public auction through Summer 2009 as a (W)eanling, (Y)earling, or (2)-year-old are shown at the bottom of a horse's 2-year-old column.

Trainer and sire profiles

Trainer profiles with unusually good ROI (Return on Investment based on a \$2 wager) will be shown on the sheets in **bold**. A poor ROI will be in *italic*. The TGI (Thoro-Graph index) for sires is the average figure achieved by all their offspring. Statistics are based solely on North American starts.

Figure-Based Trainer Profiles - Chart on following page

1-- The studies are based on the "effective top" of each horse at the time of the race being measured. Effective top is defined here as the horse's best figure from his last six starts, or last 12 months if he ran less than 6 times during that period. This means, for example, that when we look at an instance of a trainer running a horse second off a layoff, that effort is compared to his previous six runs at that time.

2-- The efforts being measured are broken out into 4 categories--

- a) "new top", defined as more than one point better than the previous "top",
- b) "pair", defined as one point better or worse inclusive than the previous top,
- c) "off race", defined as more than a point worse but less than 4 points worse than the previous top,
- d) "x", defined as 4 or more points worse than the previous top.

3-- For the categories measuring how a trainer's horses do following a top, a pair of tops etc., we only used horses that have run at least 6 times for the trainer.

4-- We did not use a sequence where there was a trainer change in the last 3 starts (except for the "trainer change" studies). We are going to take a look at this and decide whether that is the right way to go or not.

5-- The bold face and italics indicate significantly higher or lower than average, respectively, not better or worse. Meaning, a trainer with a bold face "x" group in a category is getting more BAD performances than most.

6-- We are comparing efforts to tops on the same surface only--if a horse raced on dirt we compared his effort to his best dirt number within his last 6 starts on any surface.

Trainer Averages**RUNS-BASED**

Win%	ITM%	ROI
12.2	36.5	1.51
26.7	62.4	1.61
11.0	40.0	1.60
3.4	17.2	1.38
12.4	38.2	1.53
12.5	38.1	1.51
12.6	36.8	1.55
9.6	29.2	1.37
10.7	33.2	1.29
12.2	36.8	1.49
12.2	36.4	1.51
12.2	36.8	1.50
11.4	34.2	1.42
11.4	34.1	1.49
12.3	36.8	1.54
12.8	38.5	1.49
13.0	38.8	1.48
11.9	35.8	1.47
12.6	36.8	1.52
12.7	37.6	1.55
11.5	35.7	1.48
9.6	29.3	1.42
9.1	28.5	1.60
7.7	23.5	1.31
6.9	21.7	1.32
23.6	54.8	1.55
10.7	34.8	1.59
3.0	13.4	1.26
12.1	35.7	1.46
9.6	28.0	1.32
27.3	61.1	1.60
10.2	37.2	1.49
2.7	13.3	1.20
12.4	37.0	1.50
12.4	37.4	1.46
12.5	37.4	1.50
11.1	33.1	1.53
7.8	24.6	1.58
8.9	27.9	1.60
12.1	36.3	1.49
10.2	33.6	1.47
12.3	36.9	1.54
10.4	31.0	1.42
10.9	33.1	1.47
13.8	39.1	1.53
9.8	32.3	1.48
12.9	35.8	1.55
10.4	31.1	1.38
11.5	33.7	1.48
12.3	35.7	1.46
10.8	33.5	1.42
11.3	33.6	1.62
11.1	34.1	1.30
11.1	33.5	1.59

TG FIGURE-BASED

Category	Top%	Pair%	Off%	X%
Overall	13.3	22.6	25.2	38.9
4-1 or less	13.3	28.7	26.8	31.2
over 4-1 to 10-1	13.0	23.4	26.0	37.6
over 10-1	13.5	17.9	23.7	44.9
Last race under 11 days	13.3	22.9	25.5	38.3
Last race 11-29 days	13.1	23.2	25.7	38.0
Last race 30-89 days	14.0	22.2	24.7	39.1
Last race 90+ days days	13.0	17.2	22.1	47.7
2nd race off lay-off	13.7	20.1	23.5	42.8
3rd race off lay-off	14.4	22.3	24.5	38.8
Colts and geldings	12.9	22.7	25.8	38.6
Fillies and mares	13.9	22.4	24.5	39.2
MSW	23.1	25.3	21.0	30.7
MCL	20.4	23.1	21.1	35.5
CLM	10.3	20.7	25.8	43.2
ALW	14.0	24.8	26.6	34.7
STK	13.2	27.4	28.4	31.0
2-y-o	25.0	25.6	19.4	29.9
2-y-o 2nd time out	51.3	19.7	11.8	17.2
2-y-o 3rd time out	35.3	24.0	15.6	25.1
3-y-o	19.1	24.9	22.9	33.1
3-y-o 2nd out lifetime	49.7	18.2	13.1	19.0
3-y-o 3rd out lifetime	35.3	24.0	15.6	25.1
4-y-o	13.3	23.5	25.4	37.7
5-y-o and up	8.6	20.1	27.1	44.1
1st time out 2-y-o (MSW)				
1st time out 2-y-o (MCL)				
1st time out 3-y-o+ (MSW)				
1st time out 3-y-o+ (MCL)				
1st time out mdn 4-1 or less				
1st time out mdn over 4-1 to 10-1				
1st time out mdn over 10-1				
2nd out mdn 2-y-o				
2nd out mdn 3-y-o+				
2nd time out mdn 4-1 or less				
2nd time out mdn over 4-1 to 10-1				
2nd time out mdn over 10-1				
Dirt	12.7	21.7	24.8	40.8
Turf to Dirt	23.4	20.4	21.6	34.6
Off tracks	12.6	20.8	23.6	43.0
Turf	17.5	30.1	30.3	22.1
First time Turf	17.6	19.3	24.3	38.8
Dirt to Turf	24.7	23.7	24.6	26.9
Sprints	13.2	21.8	24.7	40.3
Route to Sprint	14.7	21.5	24.9	38.9
Routes	13.4	23.8	26.1	36.7
First Route	17.0	19.9	20.3	42.7
Sprint to Route	13.2	20.0	23.1	43.7
Claimers, down in class	13.9	21.4	23.9	40.8
Claimers, up in class	13.1	21.2	24.9	40.9
1st after trainer change	14.3	18.3	22.1	45.4
2nd after trainer change	13.4	19.6	23.0	43.9
1st time Lasix	25.5	23.0	19.9	31.6
2nd time Lasix (in a row)	27.1	22.7	19.2	31.0
1st time blinkers	18.9	21.9	21.5	37.7
Blinkers On	16.9	21.4	22.3	39.4
Blinkers Off	19.9	23.0	23.2	34.0
Adding bandages	12.0	19.5	23.8	44.6
Removing bandages	13.1	20.4	24.3	42.3
After new top (by at least 1pt)	15.3	25.5	25.9	33.3
After race within 1pt of top	18.4	31.1	24.9	25.6
After race 1-4pts off top	11.6	23.4	29.9	35.2
After race 4pts or more off top	6.9	15.0	22.6	55.5

Sire Averages

Category	Win%	ITM%	TGI
Overall	12.1	36.2	17 ²
2-y-o	11.7	35.2	22 ²
3-y-o	12.4	36.3	18 ³
4-y-o	12.3	36.6	16 ²
5-y-o+	11.8	36.1	15 ²
Dirt	12.2	36.5	18 ¹
Synth	11.5	34.3	14 ²
Off tracks	12.4	37.3	19 ²
Turf	11.1	33.1	17
1st time turf	7.8	24.3	19 ³
Sprints	12.0	36.0	18 ³
Routes	12.3	36.8	18 ²
1st time out	8.5	25.6	26 ²
Fillies/Mares	12.1	36.4	19
Colts/Geldings	12.1	36.2	16

Dam-Side Data

Sheets for all horses less than 5-years old will include the race records (North American from 1992 on) for each dam and her other foals and their best Thoro-Graph figure broken down by year, sprint, route, surface and track condition.

An asterisk, *, besides the dam or foal's name indicates that the horse may have raced before 1992 and those races are not included. A dash, --, in the data category means the horse did not race, so no figure. A question mark, ?, means we don't have figures for those races.

Thoro-Graph figures are calculated from data compiled from several sources including Equibase Company LLC. Data provided or compiled by Equibase Company LLC (which includes data from The Jockey Club) and/or Thoro-Graph Inc. generally is accurate but occasional errors and omissions may occur as a result of incorrect data received by others, mistakes in processing, and other causes. Thoro-Graph Inc., Equibase Company LLC, and The Jockey Club disclaim responsibility for the consequences, if any, of such errors but would appreciate their being called to their attention.

Thoro-Graph

Guide to the Thoro-Pattern

Thoro-Pattern studies are broken out by age and time and using horses that have run at least six times – the three starts of the pattern (0-2-X etc.), plus at least three starts before that, in order to establish an effective previous top to compare to. Each of the last four – the three of the pattern, plus the one being measured – had to be within 42 days of the previous start, and all for the same trainer. The three runs in the pattern and the one being measured all had to be on the same surface (either dirt or turf), and either all sprints (less than a mile) or routes (a mile or more).

The numbers are compared to the “effective top” of the horse, which for the purposes of these studies was defined as the best figure the horse had run in the last 6 starts before the three race pattern began. If the horse runs better than that within the three race pattern, that figure becomes his effective top. Dirt patterns compared the race being studied to the horse’s dirt top, turf patterns to his grass top.

We do not make distinctions when we output the sheets. In other words, if a horse is coming off an 0-2-X, with the races six months apart, some grass and some dirt, we are printing the 0-2-X stats, even though they don’t really apply. We are doing this so you have something to work with, but it means you have to make distinctions. You can’t always take the results at face value for every horse – you have to handicap. Was there a significant trainer change that affected the pattern, or affects your opinion about what the horse will run today? An off race on a surface the horse doesn’t like last time out? Is the horse heavily raced, making improvement less likely than on average for the pattern?

The patterns shown are the ones for the surface today’s race is carded for, regardless of what surface the horse has been running on, and the effective top used will be the horse’s best number, regardless of surface or distance. The same categories apply as for the figure-based trainer studies – “top” means more than one point better than his previous effective top, “pair” means within a point either way of that effort, “off” means more than one point through four points worse than the effective top, and “X” means worse than that.

Thoro-Graph

THORO-GRAPH RACE SHAPES

We have taken the first quarter mile run by every horse in their recent races, and adjusted each horse's time for track speed, wind, weight, carried, and ground loss, if any. We then gather the data for all the horses running on a race card, and further adjust those times based on the recent speed of the track they are running over **today**. The resulting adjusted quarter times give the handicapper the ability to form an idea of the early speed of each horse, and the early pace of each race.

We then take things a step further. Using each horse's last three adjusted times, we have come up with an average quarter mile time for each horse, and put those times on a graph for each race. The result is what we call a **Race Shape**—a rough evaluation of where each horse figures to be after a quarter mile. This enables the handicapper to evaluate how a race will set up—for example, whether a horse drawn outside has several horses with a similar running style inside him, in which case he could be caught wide.

Keep in mind that how much early speed a horse has shown in previous races is often a function of tactics—that's why we are using an average for the **Race Shapes**. It's also why we separately show all the recent adjusted quarter times for each horse—so you, the handicapper, can decide what information is relevant to today's race. Also keep in mind that how much speed a horse shows **today** can be a function of tactics—trainers and jockeys handicap too.