

## HTR Newsletters in a Nutshell – by Mel Moser

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Mel Moser has compiled a summation of many of the articles, test results and statistical findings he found most compelling in the HTR newsletter over the last few years. We are very grateful to him for this effort and it should prove an excellent resource for any HTR user, whether veteran or newcomer.

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## K RATING

K1 through K4 horses win approximately 80% of all races. This makes them a good source of winners with off odds of 6-1 and higher.

Most K5 winners with ML odds of 8-1 or higher pay between \$17 and \$30, but the Impact Value of .69 is only a modest improvement on an Impact Value of .49 for all winners with a ML odds of 8-1 or higher.

K5 through K7 winners which pay \$15 or more, can exceed expectations if the horse has a Wk rating of 83 or higher.

Although rare, K1 and K2 horses with odds of 15-1 or higher sometimes materialize late in the betting and are semi-automatic contest plays. K3 and K4 horses which win at odds of 15-1 or higher are much more common.

K2 horses which have a \$ or \$\$ designation have a winning percentage of more than 15% with an average mutual of around \$12, and first time starters which are ranked K2 win more than 20% of their starts.

Most K1 horses have a rating in the 105-110 range. K ratings are most accurate above 108 and lose strength in races with a VI of less than 25, where the winning percentage of ML favorites drops below 20%. Favorites with K ratings lower than 105 also average only 20% winners and all low rated K1 horses which are favorites, are vulnerable. Any favorite with a K rating of less than 100 is likely to lose, often at low odds.

Turf races, especially turf races for claimers, are the best type of races for overlays which have high K ratings. There are far more K1 turf winners which pay \$20 or more, than there are K1 dirt winners which pay \$20 or more.

KM's research shows that K103 is the "sweet spot" for K ratings. It represents the "perfect" combination of positive factors. At K103 the sample size is large and the Impact Value comes close to an optimal 1.5. With more than 50% ITM finishes, this suggests that a majority of K103 horses are 'live' and have average off odds close to 5-1. The ROI is negative because the average winner paid \$9. However with such a large number of K103 horses, it is reasonable to assume that there are plenty of K103 horses which will be live longshots and overlays.

A K4 ranking is the "sweet spot" for horses which are also top ranked on LV and have off odds of 10-1 or higher.

Favorites which are ranked K3 or K4 win at rates which are well below the normal win rate for favorites. Betting favorites ranked below K4 win less than 23% of the time, which is much lower than the approximate 35% of races won by all favorites. Horses ranked K6 or worse have a win percentage of less than 10% in almost all categories.

When evaluating a horse's K Rating we also need to be aware that the Wk rating is not part of the K computation.

## Super K

There are two types of K=1 that win at a much higher rate than normal.

1. K=110 or higher, designated with (+). These horses win in the 40% range overall.
2. HF (designation shown in far right column). These are the highest percentage plays with about 50% winner.

Most of these high probability runners are heavily bet. But test results get positive returns in many cases because of the extremely high hit rates.

These are the strongest keys to use as pick-6 single.

Tournament players fear these horses because they can rarely beat them with a longshot.

## KLINE

The Kline is an estimate of each horse's percentage chance of winning, expressed in odds. It is very precise when the Kline is 20-1 or higher, or the Kline is 5/2 or lower.

A weak K rating results in a corresponding weakness in the Kline. Thus, the Kline is not as accurate in turf races, especially turf sprints which sometimes feature many unknowns. The Kline is also less reliable in races with a VI of less than 25, where the winning percentage of ML favorites falls below 20%.

There is more volatility and a greater variance in the Kline for horses with odds in the middle range than for horses with the lowest and highest Kline odds. For example, a Kline of 6-1 estimates a horse's chance of winning as 13%, but a particular 6-1 horse's actual chance of winning a specific race is between 10% and 17%.

The "sweet spot" for the KLine is somewhere between 3-1 and 7-1. These horses have a 14% or higher chance of winning, are often ranked K2, K3 or K4, and many times are second or third choice in the wagering.

Success in contests often results from using bullets on the best longshot possibilities. One method of accomplishing that goal is only playing horses that have a 10% or more chance of winning combined with actual odds which are at least 50% higher than the Kline.

## VOLATILITY INDEX (Vi)

The VI is a numerical representation of the predictability of a race. It is a statistical tool which predicts tendency and which has been shown to have a near perfect correlation from the lowest to highest ranking. Although favorites win low VI races and longshots win high VI races, the important thing to keep in mind is that the lower the VI, the more likely the horse which finishes first or second will have gone off at odds of 6-1 or higher.

**The win rate of horses with off odds of 6-1 or higher in races with a VI of less than 25 is 32.6%, which is much higher than the win rate of the ML favorite in such races, which drops below 20%.**

Anytime the VI is less than 27, as it often is in large fields of low level claimers, the favorites are vulnerable. On the other hand, if the VI is above 35, as it often is in short fields of classified allowance and stakes horses, a longshot winner is unlikely.

A race with a VI rating of less than 20 is three times more likely to produce a winner with off odds of 15-1 than a race with a VI rating of 44.

In contests, every low VI race should be viewed as a potential play.

## TURF RACES

As noted, K ratings and the Kline are not as strong in turf races as in dirt races.

**The winners of turf routes pay \$15 or more 28% of the time. This is a significant increase over the 23% of winners which pay \$15 or more for all races.**

Together, the three highest ranked jockeys win 50% of all grass routes and have an ROI which beats the track takeout. Therefore it makes sense to pay special attention to significant jockey changes.

In turf routes, the results for horses which are LV1 are good in claiming races, and results in all turf routes improve if a horse which is ranked LV1 is likely to be close up in the early stages of the race.

The results in turf routes are only average for Super Trainers, who have a winning percentage just above 20% with a poor ROI. With the exception of Bobby Frankel, the usual dominance of trainers with a rating of 400 or higher is missing, which makes turf routes one of the best opportunities for playing against a low odds horse conditioned by a Super Trainer.

A test of older horses in non-maiden grass races at various distances, using FR3 as the sole handicapping factor, demonstrated that the best results were achieved in 9f races. In 9f turf races, the two horses with the best Fr3s won 34.7% of the time and showed a flat bet profit. Although the ROI was slightly lower, the two horses with the best FR3s in turf routes beyond 10f won 36.4% of the races.

The test results in turf races at various distances using SP, which combines EP and FR3 equally, were also best in 9f races. The composite top two SP ranked horses in 9f turf races won 37.5% of the races with an ROI of \$1.

## CHAOS RACES

HTR defines chaos races as those falling into two separate and distinct categories. The first category is comprised of races which have at least one horse which is an unknown and where all of the remaining horses fall within specified HTR ratings. Each of the following six factors must be present before a race in the first category is classified as a chaos race:

- (1) The Vi must be 29 or less.
- (2) The field size must be 8 or more.
- (3) The ML favorite must be 5/2 or higher.
- (4) The rating of the K1 horse must be 105 or less.
- (5) There must be 1 or more unknowns in the race.
- (6) The race must not contain any horse which is Q5=1, an XF, or an HF.

The biggest difference in the second category of chaos race is the requirement that there be at least five horses in the race which are unknowns. The six factors which must be present in order for a race in the second category to be classified as a chaos race are:

- (1) The Vi must be 29 or less.
- (2) The field size must be 7 or more.
- (3) The ML favorite must be 5/2 or higher.
- (4) The rating of the K1 horse must be 108 or less.
- (5) There must be 5 or more unknowns in the race.
- (6) The race must not contain any horse which is Q5=1, an XF, or an HF.

Both categories of chaos races share the following characteristics:

- (a) Higher than normal rates of winners which pay \$15 or more.
- (b) Favorites are in deep water here. Remain alert to the possibility that a heavily bet runner in a chaos race is a possible insider play.
- (c) Traditional handicapping methods, particularly methods which use speed figures or emphasize final time, do not work very well, and class comparisons are pretty much useless. Analysis of past performances and form cycles don't work either. Many of the horses in chaos races either don't have recent running lines or have running lines which are unreliable.
- (d) K ratings and Klines should be viewed with skepticism in chaos races.
- (e) Trainer statistics and angles are extremely important in chaos races, and extremes in trainer statistics can be decisive. Depending on the specifics of the chaos race in question, pedigree and workout ratings can also be critically important.

## **RULE OF 50 RACES**

The Rule is based on the facts that an FR3 less than a round number is easy to remember, and it's also easy to see when all the horses in a particular race do not meet a 50 fps benchmark.

However, the actual dividing line on dirt is closer to an FR3 of 49.5 fps, while the comparable cut-off on turf is, depending on the race, an FR3 of 51 or 52.

In dirt races, a horse with an FR3 of 49.5 fps ran its final quarter in 26.67 seconds, and any horse which consistently struggles to complete its final quarter in less than 27 seconds is demonstrating that it has very little talent or upside.

If all of the horses in a dirt race have FR3s which are less than 49.5, horses with an early speed edge have a huge advantage. All of the horses will be tired or tiring in the final quarter and horses on or near the lead at that stage of the race often stagger home on top.

A horse's FR2, or turn time, can be important in determining if a horse with an FR1 advantage in a Rule of 50 race can put away the field on the turn. If a horse with the FR1 advantage does not also have competitive FR2s, then the horse may not be able to make use of its FR1 advantage to win the race at the top of the stretch.

In contrast, any horse which has an FR2 within 1 fps of its FR1 has a *power* FR2, which is a strong sign of class and talent.

Even in Rule of 50 races it can be difficult for a horse with an FR1 advantage to hold on as the distance of the race increases, since by definition such a horse is going to be wobbly after 6 furlongs. Thus, the chances of "late" runners are somewhat better in 6.5f and 7f races.

At major tracks, the benchmark KM recommends in dirt routes is that in order to be considered as a possible win candidate, the horse must have an FR3 which is higher than 50, since very few non-maiden dirt route winners have an FR3 below 50.

## MAIDEN RACES

Msw races tend to have the highest rate of winning favorites, as well as the highest ROI for winning favorites. Watching the toteboard is not an exercise in futility in Msw races.

Though relatively rare, K1 horses which are first time starters perform well in all maiden races. They win at a 40% rate in maiden races for two year olds at distances up to 5.5f. Together, first time starters which are K1 or K2 win over 62% of two year old maiden races at distances up to 5.5f.

The conventional wisdom is to focus on lightly raced horses in Msw races, and statistics show a slight positive impact for horses with one lifetime start. Horses with between two and four starts win at expected rates, while horses with five or more lifetime starts win at rates somewhat better than expected.

Top rated trainers win far more than their share of Msw races. Trainers with ratings between 350 and 500 or the top two ranked trainers in the race, have the highest ROI.

Usually, trainers with average or lower ratings should only be played in Msw races if the horse has a significant edge in early pace and is a longshot.

First time starters with Pedigree ratings of less than 450 are usually poor plays in Msw races, since their win percentage is low, their ROI is worse, and their longshot statistics are weak. In most instances, it is worth trying to beat a favorite in an Msw race which has an average or below average Pedigree rating, even if the horse has fast workouts and a competent trainer.

Impact Values demonstrate that as a group, horses which run with lasix in their first start hold their own in Msw races nationwide and have an ROI that exceeds the track takeout. Just the opposite is true for debut runners without lasix, as such horses win far less than their fair share of races and have a terrible ROI.

At NYRA tracks, approximately 33% of debut runners in Msw races get lasix, which is a lower percentage than at other major tracks. At the five major California tracks, around 80% of first time starters in Msw races begin their career with lasix. At Gulfstream and Calder, there is a near 50/50 split between horses which debut in Msw races on lasix and those that don't. The win rate of horses which are given lasix for their first start is better in Florida than elsewhere, and demonstrates a distinct statistical advantage, but the ROI is low. In Kentucky, 66% of horses in Msw races are given lasix, and test results show that horses which debut without lasix in Kentucky can be tossed with impunity.

The bottom line is that at any track on any circuit, a horse that makes its debut in a Msw race without lasix is probably a poor play. The addition of lasix is meaningful for first time starters.

Horses which break their maiden on the front end or have an S or R running style do not perform well in their first start against winners. In contrast, horses which have a P running style and are ranked first in SP in the next race after the maiden win show a positive ROI.

## **MAIDEN RACES -- continued**

The five most important factors in determining if a horse which broke its maiden will win its next start are:

- (1) Horses ranked K1 win 31% of the time with an Impact Value of 2.4;
- (2) Horses with an HTR1 ranking have a 29% win percentage and an Impact Value of 2.24;
- (3) FC1 horses win 26% of the time and have an Impact Value of 2.16;
- (4) Horses which are PER1 have a 26% win rate and an Impact Value of 2.07; and
- (5) SP1 horses have a win rate of 25% and an Impact Value of 1.98.

Being able to finish well in a race is the single most important factor for predicting whether or not a chronic loser which finally wins a maiden race will be able to win its next start. A chronic loser which breaks its maiden on the front end after many tries is almost certain to lose its next start, while the chronic loser which wins and in its next start is ranked first in SP, FR3, FX, or Vel is often a good longshot contest play. Test results demonstrate a positive ROI for each of these factors.

## **SECOND AND THIRD TIME STARTERS**

Horses making their second or third lifetime start are often overlays, particularly if they ran poorly in their first and/or second start. Studies of such horses reveal that:

- (1) Virtually all improve, and a significant percentage improves dramatically.
- (2) When handicapping horses making their second or third start after running poorly, look for changes and “hidden” positives, which are often better clues to an improved effort than superior speed and/or performance figures.
- (3) The kinds of changes which can cause dramatic improvement include the addition of lasix or blinkers, and/or a positive jockey switch. Hidden positives can be found in races where the horse in question gave any hint of early speed or ability, including but not limited to demonstrating the *potential* of an Fr1 of 58.
- (4) Good Ped and/or Wk ratings are also keys to uncovering live longshots, as are trainer ratings, especially when the statistics demonstrate that the trainer’s horses usually improve in their second and/or third start.

## **JOCKEYS AND JOCKEY RATINGS**

**Positive Work Rating and Jockey Switch:** A “+” to the left of a jockey’s name means the jockey has either (a) won riding the horse in the past; or (b) is a top rider on the circuit with a rating over 300. Horses with a positive jock switch and a work rating of 83 or higher win 17% of the time with an ROI of .90, with a significant number of winners paying \$15 or more.

**Top Ranked Jockeys on \$\$ Horses:** A top ranked jockey is one with a rating of 350 or higher. Horses with a \$\$ designation have an ML of 5-1 or higher and at least two key HTR factors, one of which is usually a Wk rating of 83 or higher. Combining these two factors results in 13.2% winners, an ROI of .98, and an average win price of \$15, which means that more than half went off at odds of 6-1 or higher.

**Good and Bad Trainers with Good and Bad Jockeys:** The results are far below normal when a trainer who has a rating of 375 or higher uses a jockey with a rating of less than 200. Therefore in contests it makes sense to try and beat this combination anytime the odds are low. Typically a jockey who has a rating of 350 or higher will not have a major impact on results when riding for a trainer with a rating of less than 200. The statistics indicate that the trainer has the most impact on results but that it is the jockeys who attract the public’s betting action.

## **Class Rating**

Horses which are ranked Class1 and are also top ranked in Fr1 or Wk, or have a Wk rating of 85 or higher, have a 29% win rate with an ROI of approximately \$1.

Class1 horses which are K5 win 13% of their races with an ROI above \$1.

Approximately 10% of horses which are ranked Class+ finish first or second at high odds. Together, horses which are ranked Class1 or Class2, and Class+ win at a 4% rate with an average win mutual of \$50.

Class1 horses which are racing with blinkers off have a 29% win rate with an ROI of \$1.29.

## MISCELLANEOUS

**HTR1:** An HTR1 ranking is the best source for horses which win or place at odds of 15-1 or higher. A 365 day test showed that 6% of HTR1 horses with off odds of 15-1 won, and that 12% of such horses won or placed. Typical off odds were 20-1 or higher, making HTR1 horses a potential source of contest points for win and place at cap odds.

**\$ And \$\$ Horses:** Horses which show a \$ or \$\$ on PL3 or PL4 perform better than \$ and \$\$ horses which don't, and there are also improved results for horses which show a \$\$ designation in multiple PL modes. Tests show that horses with a \$\$ designation are much stronger between 6-1 and 12-1 than at 15-1 or higher.

**6.5f Turf Races at Santa Anita:** Even though favorites win 36% of the races on Santa Anita's downhill turf course, 32% of the races are won by horses which pay more than \$15, and many have a \$\$ designations as a result of a top FR1 ranking and a Wk rating of 85 or higher. The best results for horses which pay \$15 or more in these races are achieved by horses which are ranked first or second on Ped, or have a Ped rating of 600 or higher. Horses which are either EP1 or EP2 together have a 35% win rate with a strong ROI. The win percentages for K1 and K2 horses, as well as for horses with a K rating of 110 or more, are far below normal in 6.5f turf races at Santa Anita, and late speed factors generate results which are particularly poor.

**PAC>PER:** Standing alone, the results of horses cutting back from a route to a sprint which have a PAC rating which is equal to or higher than the PER rating are not good. However, the win percentage for such horses is between 20% and 24% with a solid ROI if, in addition to having a PAC equal to or higher than PER, the horse is also top ranked in FR1 or Wk, or has a Wk rating of 85 or higher. When any of those factors are also present, the percentage of winners paying \$15 or more is approximately 8%.

**Lone P Horses in Dirt Sprints:** Lone P horses in dirt sprints have a win percentage of 16% with a good ROI, and the results improve significantly if the lone P horse has a trainer who is rated 350 or higher, a jockey rated 300 or higher, a Wk rating of 80 or higher, or is ranked first or second on FR1.

**Horses with the Highest Possible Wk Rating:** Horses which have the highest possible Wk rating of 95 have a win rate of 17% and many of the winners have off odds of 15-1 or higher.

**Layoffs:** For dirt routes the best ROI and Impact Value were for horses which had not raced for 66 to 165 days. In turf routes the highest ROI was for horses returning on only two to ten days rest, while the best Impact Value was for horses which had either not raced for between 29 and 65 days or were returning from a layoff of more than 165 days.