

# Player A Right-Handed Pitcher



## Pitch Tracking

Pitch Type	#	# RHB	# LHB	%	MPH	PA	AB	H	1B	2B	3B	HR	SO	Walks	BBE	BA	SLG	WOBA	EV	LA	Spin	Extension	Whiff %	Put Away %
Four Seam	962	519	443	39.8	93.3	231	150	58	37	13	3	5	40	34	152	0.384	0.613	0.475	89.9	11.1	2495.9	5.9	20.4	26.8
Slider	609	437	172	25.2	84.7	168	71	26	16	4	0	6	62	30	72	0.263	0.676	0.517	88.9	15.6	2515.0	5.6	40.5	44.3
Curveball	476	193	283	19.7	84.4	130	56	15	11	3	0	1	56	12	56	0.160	0.375	0.381	84.4	-9.5	2471.2	5.7	41.2	31.6
Changeup	250	32	218	10.3	88.2	54	41	15	9	2	2	2	5	7	41	0.395	0.659	0.472	85.0	6.9	1866.5	5.8	24.4	13.9
Cutter	108	73	35	4.5	85.8	27	20	5	3	2	0	0	3	2	20	0.263	0.350	0.332	83.1	3.5	2524.3	5.8	40.7	33.3
Sinker	15	6	9	0.6	92.6	4	4	2	0	1	1	0	0	0	4	0.500	1.250	0.699	98.7	12.6	2523.9	5.8	14.3	0.0

## Left-Handed Batters

Pitch Type	#	# LHB	%	MPH	PA	AB	H	1B	2B	3B	Hr	SO	Walks	BBE	BA	SLG	WOBA	EV	LA	Spin	Extension	Whiff %	Put Away %
Four Seam	443	443	38.2	93.3	103	75	34	21	7	2	4	14	11	77	0.442	0.760	0.524	90.4	10.6	2489.6	5.9	16.5	25.5
Slider	172	172	14.8	84.8	57	18	5	1	2	0	2	22	14	18	0.217	0.722	0.551	93.3	15.7	2521.3	5.7	40.2	44.9
Curveball	283	283	24.4	84.5	87	30	9	6	2	0	1	40	11	30	0.170	0.467	0.464	83.1	-13.2	2480.0	5.8	47.0	36.7
Changeup	218	218	18.8	88.2	44	36	12	7	2	1	2	3	5	36	0.353	0.611	0.431	83.5	4.0	1870.6	5.8	22.0	10.7
Cutter	35	35	3.0	85.7	4	3	0	0	0	0	0	0	1	3	0.000	0.000	0.175	86.8	-3.5	2523.7	5.8	66.7	0.0
Sinker	9	9	0.8	92.7	3	3	1	0	1	0	0	0	0	3	0.333	0.667	0.413	99.4	3.4	2526.4	5.9	0.0	0.0

## Right-Handed Batters

Pitch Type	#	# RHB	%	MPH	PA	AB	H	1B	2B	3B	HR	SO	Walks	BBE	BA	SLG	WOBA	EV	LA	Spin	Extension	Whiff %	Put Away %
Four Seam	519	519	41.2	93.3	128	75	24	16	6	1	1	26	23	75	0.324	0.467	0.432	89.5	11.6	2501.2	5.9	24.6	27.7
Slider	437	437	34.7	84.7	111	53	21	15	2	0	4	40	16	54	0.276	0.660	0.501	87.4	15.5	2512.5	5.6	40.6	44.0
Curveball	193	193	15.3	84.4	43	26	6	5	1	0	0	16	1	26	0.146	0.269	0.235	86.0	-5.2	2458.3	5.7	33.8	23.5
Changeup	32	32	2.5	88.0	10	5	3	2	0	1	0	2	2	5	0.750	1.000	0.681	95.8	27.8	1838.1	5.7	36.8	25.0
Cutter	73	73	5.8	85.8	23	17	5	3	2	0	0	3	1	17	0.294	0.412	0.364	82.5	4.7	2524.6	5.7	29.3	37.5
Sinker	6	6	0.5	92.5	1	1	1	0	0	1	0	0	0	1	1.000	3.000	1.558	96.7	40.2	2520.2	5.8	33.3	0.0

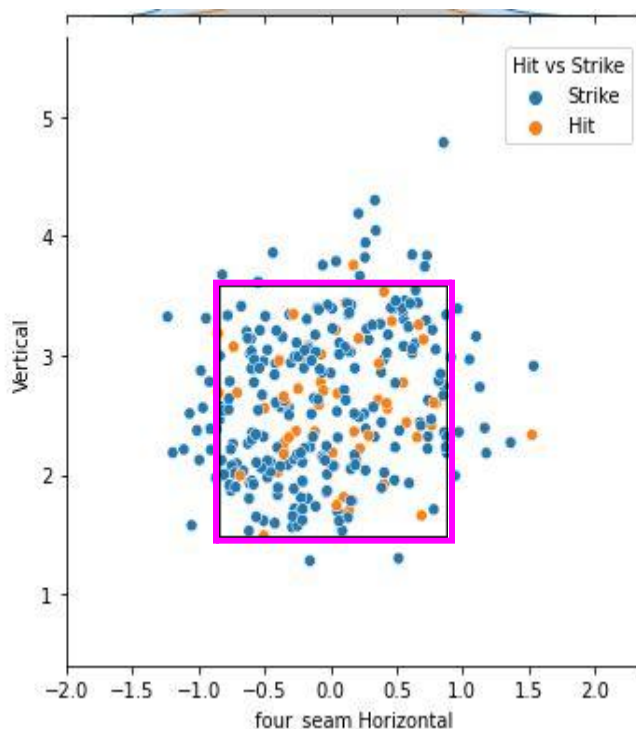
## Elevate the Fastball

- Four-seam fastball thrown 39.8% of the time
  - Batting Average overall .384
    - Left-Handed Batters hitting .442
    - Right-Handed batters hitting .324
  - Slugging overall 0.613
    - Left-Handed Batters slugging .760
    - Right-Handed Batters slugging .467
  - wOBA overall .475
    - Left-handed batters .524



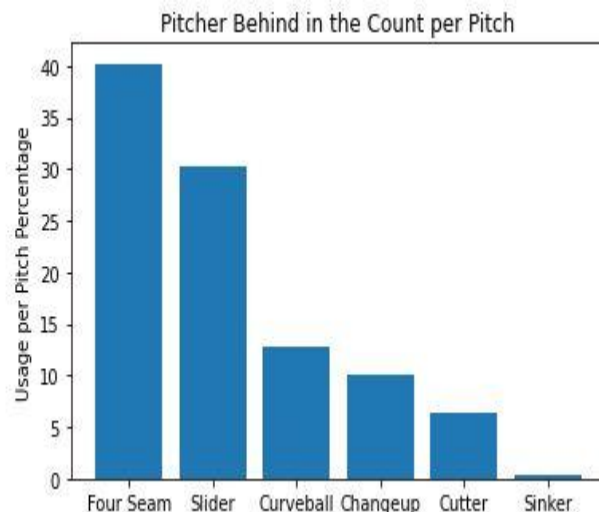
## Player A Right-Handed Pitcher

- Right-handed batters .432
  - Batters are crushing this pitch
    - wOBA for slider is .517 as well
- Opponents hit the four-seam well and for power
  - Cutter only has 108 pitches thrown
    - wOBA is .332
    - Exit velocity much lower at 83.1 MPH
    - Four-seam exit velocity is 89.9 MPH
- Throw the cutter more often
  - Increase usage above 5%
  - Decrease usage of four-seam from 40%
- Opponent's hits are concentrated to the middle and lower half of the strike zone against the four-seam
  - Middle of the strike zone receives the most hits
  - Top of the strike zone has a lot of strikes
- Spin rate 2496 RPMs
  - Above average spin rate
  - Balls can live higher in the strike zone
  - Batters will swing underneath
- Velocity is average at 93.3 MPH
  - Average tilt on the four seam spin axis (clock) 1:46
    - Not perfectly 12:00 still effective for elevated zone
- The combination of average velocity and above average spin rate is powerful
  - This combination creates a rising effect



## Use the Curveball

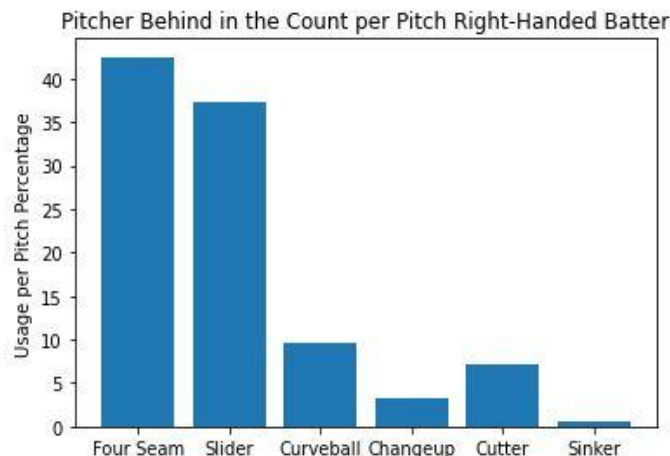
- Equally devastating to right-handed and left-handed batters is the curveball
  - Batting average .160 overall
    - Left-handed batters .170
    - Right-handed batters .146
  - Slugging overall .375
    - Left-handed batters .467
    - Right-handed batters .269
  - wOBA curveball overall .381





# Player A Right-Handed Pitcher

- Left-handed batters .464
  - Right-handed batters .235
- Four-seam heavily relied on when behind in the count
  - Slider is heavily relied on as well
  - Curveball large whiff rate
    - 41.2% overall
    - 47.0% left-handed batter
    - 33.8% right-handed batter
  - Batters will be expecting four-seam or slider when player B is behind
    - Curveball good strikeout pitch too
      - 31.6% put away overall
      - 36.7% left-handed batter
      - 23.5% right-handed batter
- Four-seam and slider are getting crushed with high wOBA and exit velocity
  - Curveball has much better wOBA
  - Exit velocity is 84.4 MPH
- Uses slider a lot when behind against right-handed batters
  - Increase use of the curveball
  - Curveball is not hit well against right-handed batters
  - wOBA .235
- Release points are relatively close across pitch types
  - Four-seam and curveball same vertical release height
  - Slider very similar in release height
  - Four-seam and slider similar to release side
- Similar release points confuse batters
  - Four-seam, slider and curveball all released from the same point
    - Does not give batter any clue of what pitch type is coming



Pitch Type	Rel Side	Rel Height	Extension
Four Seam	2.2	5.6	5.9
Slider	2.2	5.5	5.6
Curveball	2.0	5.6	5.7
Changeup	2.3	5.5	5.8
Cutter	2.0	5.5	5.8
Sinker	2.3	5.5	5.8

## Use the Cutter

- Cutter was not thrown a whole lot but shows promising results
- Increase usage
- Cutter and curveball induce a lot of ground balls
  - Curveball 69.6% groundball rate
  - Cutter 55.0% groundball rate
  - Sinker had an elevated ground ball rate but was not thrown enough
  - Curveball and cutter good choices to induce double play

Pitch Type	GB%	FB%	PU%
Four Seam	38.2	27.0	7.9
Slider	31.9	34.7	4.2
Curveball	69.6	10.7	1.8
Changeup	36.6	24.4	9.8
Cutter	55.0	30.0	5.0
Sinker	50.0	25.0	0.0



## Player A Right-Handed Pitcher

- Cutter also viable alternative to four-seam
  - Four-seam has inflated batting average and slugging
  - Cutter effective pitch overall with .263 batting average
    - Caution towards right-handed batters
      - Batting average .294 against it
    - Left-handed batting average .000
- Increase velocity on cutter as a goal going forward
  - Cutter at 85.8 MPH
  - Four-seam is 93.3 MPH
  - Cutter has a less vertical rise than four seam at 39.7"
    - Spin is higher than four seam at 2524.3 RPMs
    - Cutter has good movement and very good spin rate
  - Four-seam has 20.3" of vertical rise
    - Very good rise at 20.3"

Pitch Type	Vertical Inches of Break	Induced Inches	Vertical Inches of Break	Horizontal Inches of Break
Four Seam	-20.3		11.9	11.0
Slider	-41.0		-1.5	-10.8
Curveball	-51.6		-11.8	-9.8
Changeup	-32.0		4.4	14.8
Cutter	-39.7		-1.2	-3.7
Sinker	-25.4		7.4	16.0