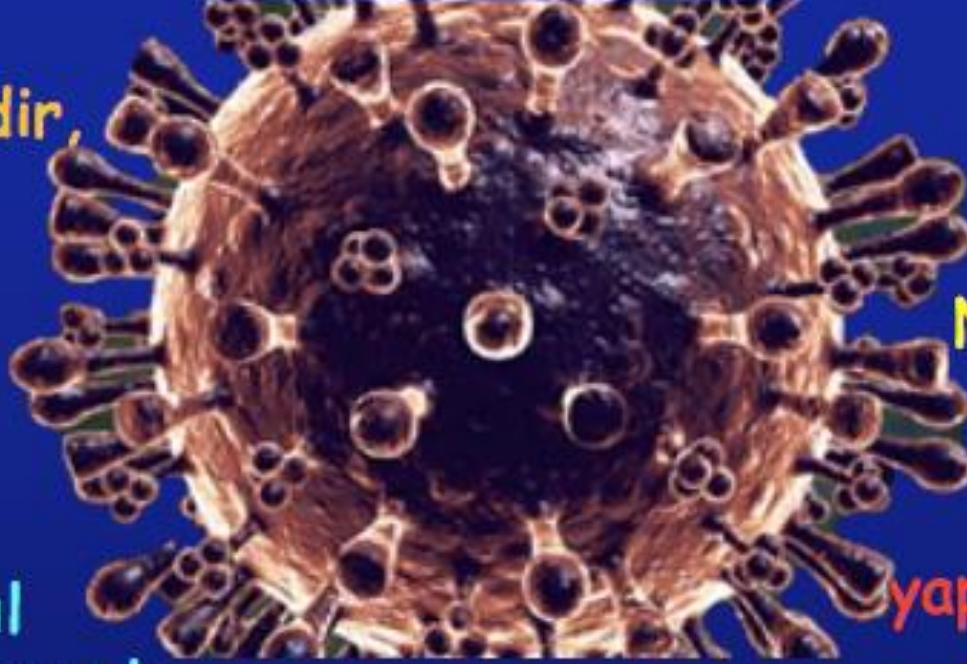


Kuş Gribi;

Risk Nedir,



Ne yemeli,

Ne
yapmalı,

Nasıl
Korunmalı,

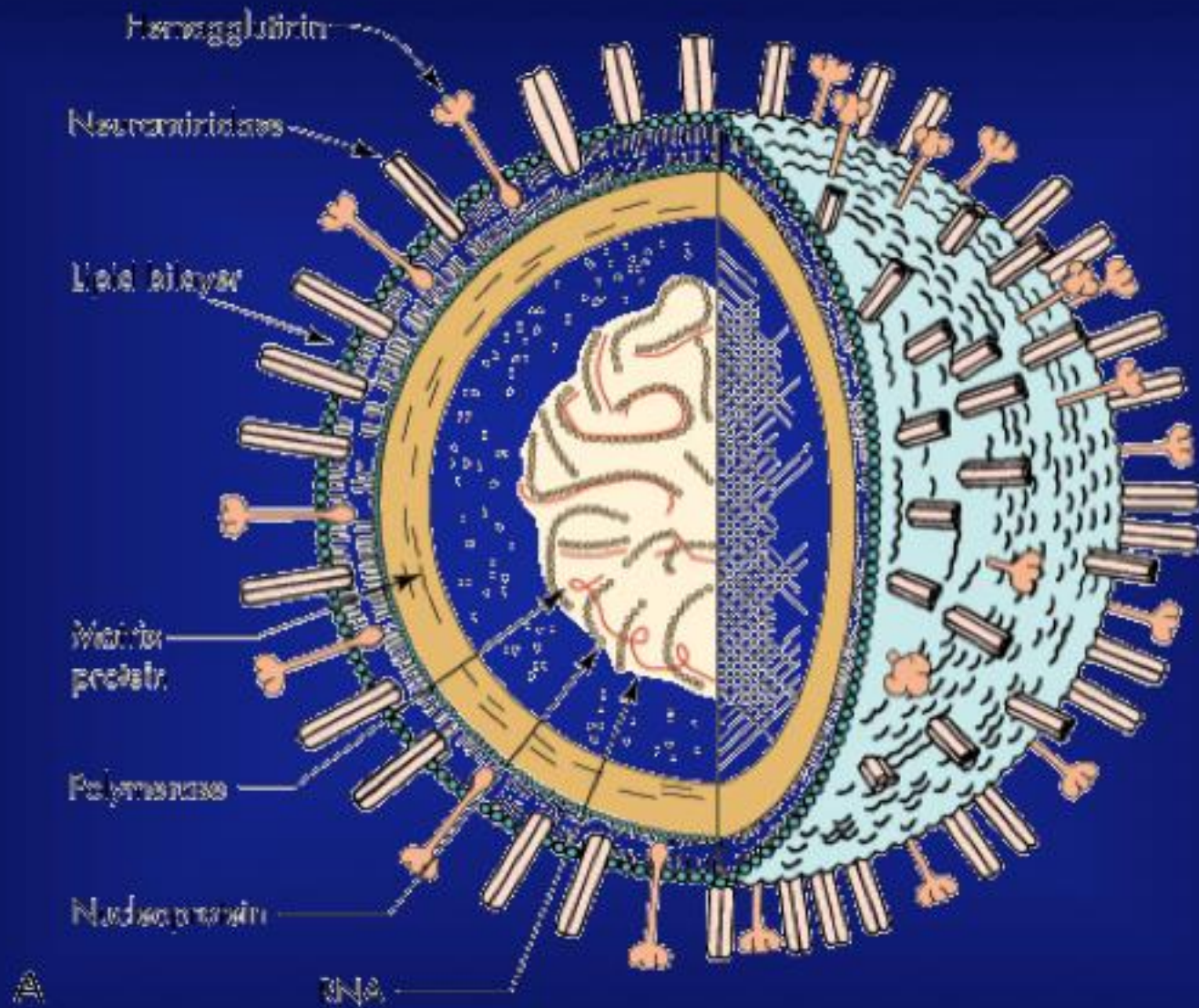
Dr. Ateş Kara
Hacettepe Üniversitesi
Tıp Fakültesi
Çocuk Sağlığı ve Hastalıkları Anabilim Dalı
Enfeksiyon Hastalıkları Ünitesi



Serkan Altunigine © www.komikaze.net

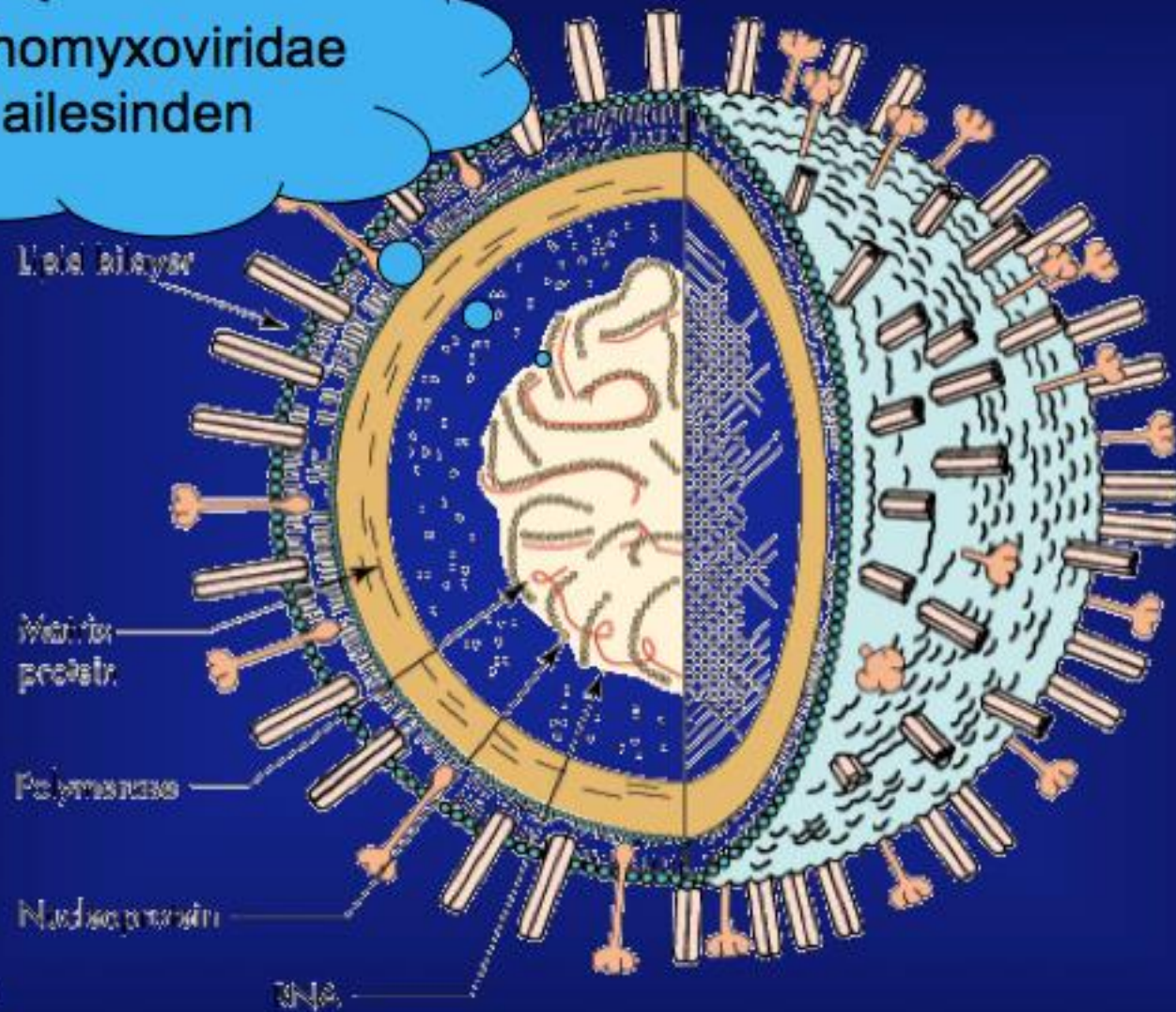
Avian Influenza: Kanatlı türlerinde, enfeksiyonu veya klinik hastalığa neden bulaşıcı viral enfeksiyon





Avian Influenza Ateş Kara

Orthomyxoviridae ailesinden



Orthomyxoviridae
ailesinden

RNA virüsü

HA (Hemagglutinin)

Matrix protein

Polymerase

Nucleoprotein

NA (Neuraminidase)

Avian Influenza Ateş Kara

Orthomyxoviridae
ailesinden

0,08 – 0,12 μm

RNA virüsü

HA (Hemagglutinin)

Matrix protein

Polymerase

Nucleocapsid protein

A

RNA

Orthomyxoviridae
ailesinden

0,08 – 0,12 μm

RNA virüsü

Matriks protein

Nükleer protein

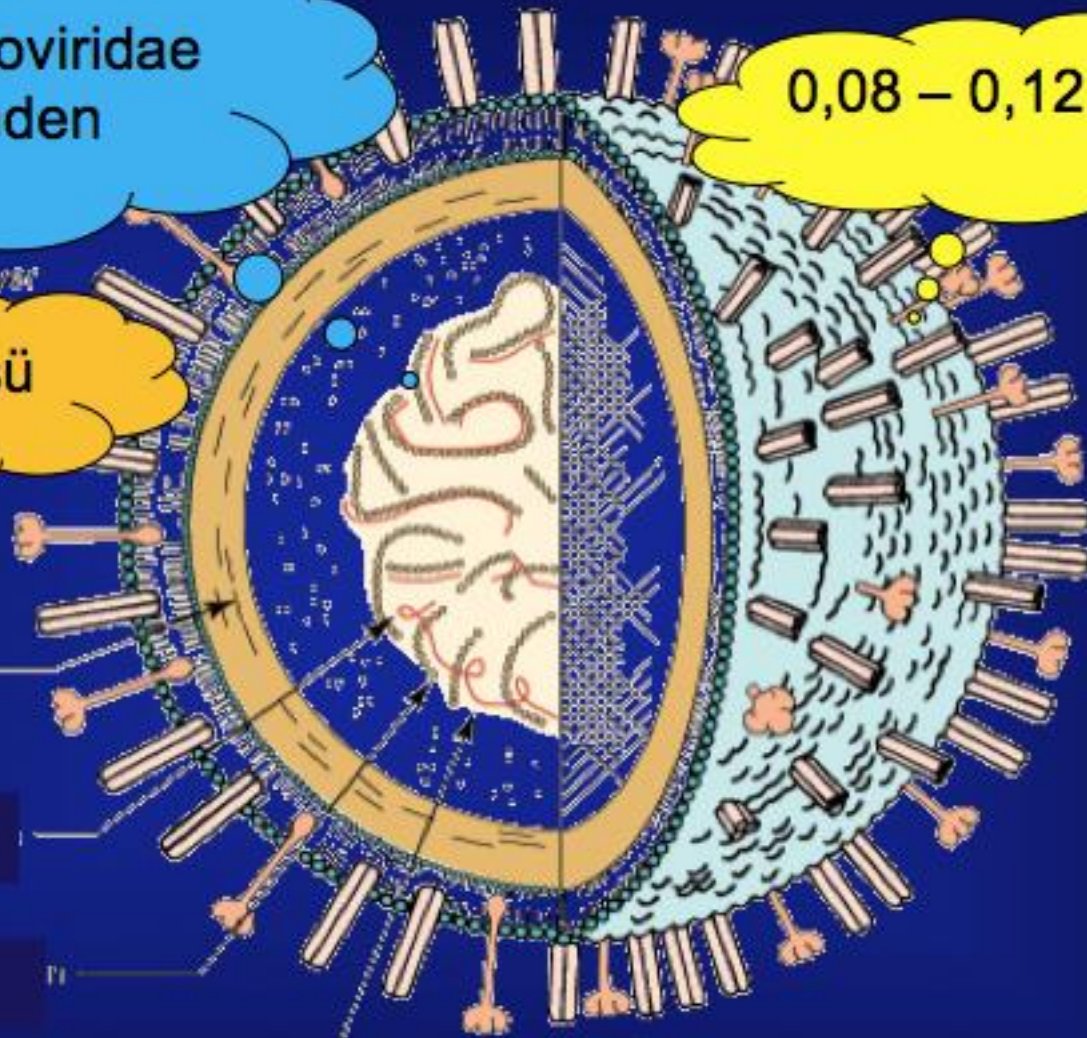
Matriks protein

A

RNA

Avian Influenza Ateş Kara

8



Orthomyxoviridae
ailesinden

0,08 – 0,12 μm

RNA virüsü

Membran
protein

Nükleer protein

Matriks protein

A

RNA

A,

B,

C

D

Avian Influenza Ateş Kara

Orthomyxoviridae
ailesinden

0,08 – 0,12 μm

RNA virüsü

Matrix
protein

Nükleer protein

Matriks protein

A,

B,

C

X

Avian Influenza Ates Kara

Orthomyxoviridae
ailesinden

0,08 – 0,12 μm

RNA virüsü

Membran
protein

Nükleer protein

Matriks protein

A,

B,

~~C~~

~~D~~

Avian Influenza Ateş Kara

İnfluenza tipi
↓
A/California/7/2009 (H1N1)
↑
Coğrafi kaynak

İzolasyon yılı
↓
A/California/7/2009 (H1N1)
↑
İzolat no

Hemagglutinin subtipi
↓
A/California/7/2009 (H1N1)
↑
Neuraminidaz subtipi

Species distribution of haemagglutinin serotypes from the NCBI Influenza Resource (<http://www.ncbi.nlm.nih.gov/genomes/FLU/Database>, accessed 3rd June 2009). Note that serotypes 1–5, 7, 9, 10 and 13 have all been found at least once in mammals.

Species	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	Total
Avian	93	105	265	212	1918	370	509	26	904	86	88	44	39	3	6	14	4,682
Blow fly					1												1
Camel	1																1
Canine	8																8
Cat							7										7
Civet					1												1
Equine			164				17										181
Ferret	1																1
Giant anteater	1																1
Human	1802	106	4610		224		8		8								6,758
Leopard					6												6
Mink			1		1					1							3
Muskrat				1													1
Plateau pika					1												1
Raccoon dog					1												1
Seal			2	1			2										5
Stone marten		1															1
Swine	419	2	238	2	12				28								701
Tiger					7												7
Whale					7								1				8
Total	2325	214	5280	216	269	370	543	26	940	87	88	44	40	3	6	14	12,375

Species distribution of haemagglutinin serotypes from the NCBI Influenza Resource (<http://www.ncbi.nlm.nih.gov/genomes/FLU/Database>, accessed 3rd June 2009). Note that serotypes 1–5, 7, 9, 10 and 13 have all been found at least once in mammals.

Species	H1	H2	H3	H4	H5	Total
Avian	93	105	265	212	1918	4,682
Blow fly					1	1
Camel	1					1
Canine	8					6,758
Cat						6
Civet					1	3
Equine			164			1
Ferret	1					1
Giant anteater	1					5
Human	1802	106	4610		224	701
Leopard					6	7
						8
						12,375

%15-60
değişim

Species distribution of haemagglutinin serotypes from the NCBI Influenza Resource (<http://www.ncbi.nlm.nih.gov/genomes/FLU/Database>, accessed 3rd June 2009). Note that serotypes 1–5, 7, 9, 10 and 13 have all been found at least once in mammals.

Species	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	Total
Avian	93	105	265	212	1918	370	509	26	904	86	88	44	39	3	6	14	4,682
Blow fly					1												1
Camel	1																1
Canine	8																8
Cat							7										7
Civet					1												1
Equine			164				17										181
Ferret	1																1
Giant anteater	1																1
Human	1802	106	4610		224		8		8								6,758
Leopard					6												6
Mink			1		1					1							3
Muskrat				1													1
Plateau pika					1												1
Raccoon dog					1												1
Seal			2	1			2										5
Stone marten		1															1
Swine	419	2	238	2	12				28								701
Tiger					7												7
Whale					7								1				8
Total	2325	214	5280	216	269	370	543	26	940	87	88	44	40	3	6	14	12,375

Avian Influenza

- Düşük patojenisitedeki avian influenza
- Yüksek patojenisitedeki avian influenza



Avian Influenza

Düşük patojenisitedeki avian influenza

- Kümeslerde hafif hastalığa neden olmaktadır,
- Şiddetli hastalığa neden olabilecek virüse değişim gösterebilir,
- Dünyanın her yerinde çiftliklerde görülmektedir,

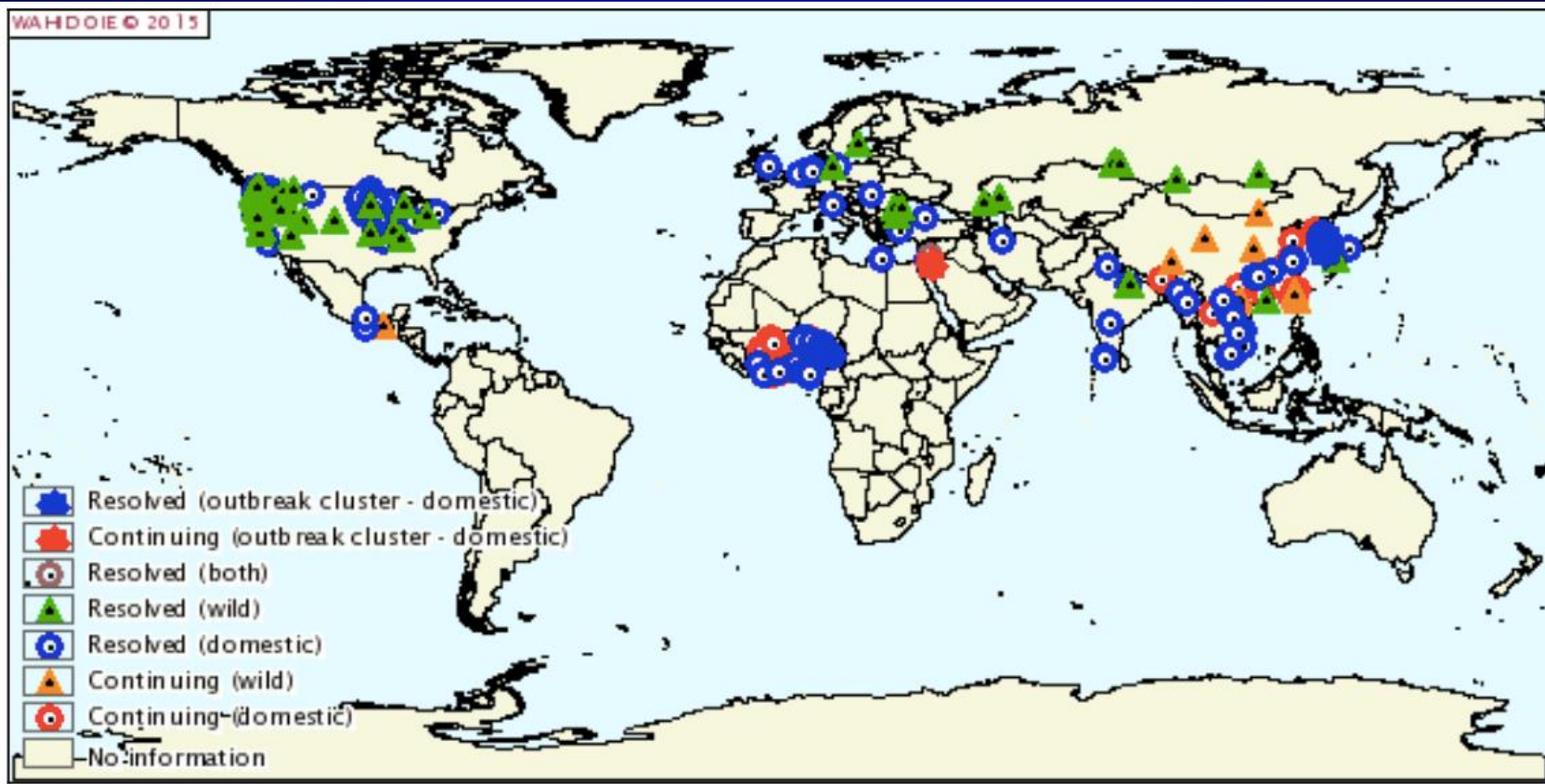
Yüksek patojenisitedeki avian influenza

- Besi kümeslerinde çok sayıda ani kaya neden olur,
- Sıklıkla H5 ve H7



Avian Influenza

1 Ocak 2015 - 1 Kasım 2015



Haemagglutinin

Neuraminidaz



H1



N1



H2

N2

H3

N3

H4

N4

H5

N5

H6

N6

H7

N7

H8

N8

H9

N9

H10

H11

H12

H13

H14

H15

H16

Avian Influenza Ateş Kara

Avian Influenza

1 Ocak 2015 -
1 Kasım 2015



Location	Virus Type	Date	Link
Bhutan	H5N1	2015 16/04/15	Immediate notification
Bulgaria	H5N1	2015 28/01/15	Immediate notification
		2015 04/02/15	Follow-up report No. 1
		2015 11/02/15	Follow-up report No. 2
		2015 11/03/15	Follow-up report No. 3
		2015 26/03/15	Follow-up report No. 4
		2015 13/07/15	Final report
Burkina Faso	H5N1	2015 01/04/15	Immediate notification
		2015 17/04/15	Follow-up report No. 1
		2015 30/04/15	Follow-up report No. 2
		2015 09/05/15	Follow-up report No. 3
		2015 02/10/15	Follow-up report No. 4
Canada (event 1)	H5N2	2015 08/01/15	Follow-up report No. 4
		2015 21/04/15	Follow-up report No. 5
		2015 05/06/15	Final report
Canada (event 2)	H5N1	2015 06/02/15	Immediate notification
		2015 21/04/15	Final report
Canada (event 3)	H5N2	2015 08/04/15	Immediate notification
		2015 21/04/15	Follow-up report No. 1
		2015 28/04/15	Follow-up report No. 2
		2015 07/08/15	Follow-up report No. 3
		2015 08/10/15	Final report
Canada (event 4)	H5N8	2015 01/05/15	Immediate notification
China (People's Rep. of) (event 1)	H5N2	2015 28/01/15	Follow-up report No. 4
		2015 01/04/15	Follow-up report No. 5
		2015 14/08/15	Follow-up report No. 6
China (People's Rep. of) (event 2)	H5N6	2015 23/01/15	Follow-up report No. 3
		2015 28/01/15	Follow-up report No. 4
		2015 06/02/15	Follow-up report No. 5
		2015 01/04/15	Follow-up report No. 6
		2015 03/04/15	Follow-up report No. 7
		2015 25/05/15	Follow-up report No. 8
		2015 14/08/15	Follow-up report No. 9
China (People's Rep. of) (event 3)	H5N1	2015 09/01/15	Follow-up report No. 1
		2015 16/01/15	Follow-up report No. 2
		2015 01/04/15	Follow-up report No. 3
		2015 19/06/15	Follow-up report No. 4
		2015 20/07/15	Follow-up report No. 5
		2015 22/07/15	Follow-up report No. 6

Location	V	China (People's Rep. of) (event 4)	H5N1	2015	25/02/15	Immediate notification (tiger)
	T	Chinese Taipei (event 1)	H5N2	2015	12/01/15	Immediate notification
Bhutan	H	Chinese Taipei (event 2)	H5N2	2015	12/01/15	Immediate notification
Bulgaria	H			2015	13/01/15	Follow-up report No. 1
				2015	15/01/15	Follow-up report No. 2
				2015	16/01/15	Follow-up report No. 3
				2015	19/01/15	Follow-up report No. 4
				2015	21/01/15	Follow-up report No. 5
Burkina Faso	H			2015	28/01/15	Follow-up report No. 6
				2015	04/02/15	Follow-up report No. 7
				2015	11/02/15	Follow-up report No. 8
				2015	17/02/15	Follow-up report No. 9
Canada (event 1)	H			2015	26/02/15	Follow-up report No. 10
				2015	04/03/15	Follow-up report No. 11
				2015	12/03/15	Follow-up report No. 12
Canada (event 2)	H			2015	19/03/15	Follow-up report No. 13
				2015	25/03/15	Follow-up report No. 14
Canada (event 3)	H			2015	02/04/15	Follow-up report No. 15
				2015	14/04/15	Follow-up report No. 16
				2015	17/04/15	Follow-up report No. 17
				2015	24/04/15	Follow-up report No. 18
Canada (event 4)	H			2015	01/05/15	Follow-up report No. 19
China (People's Rep. of) (event 1)	H			2015	11/05/15	Follow-up report No. 20
				2015	18/05/15	Follow-up report No. 21
				2015	29/05/15	Follow-up report No. 22
China (People's Rep. of) (event 2)	H			2015	04/06/15	Follow-up report No. 23
				2015	12/06/15	Follow-up report No. 24
				2015	18/06/15	Follow-up report No. 25
				2015	07/07/15	Follow-up report No. 26
				2015	13/07/15	Follow-up report No. 27
				2015	20/07/15	Follow-up report No. 28
China (People's Rep. of) (event 3)	H			2015	27/07/15	Follow-up report No. 29
				2015	31/07/15	Follow-up report No. 30
				2015	11/08/15	Follow-up report No. 31
				2015	24/08/15	Follow-up report No. 32
				2015	04/09/15	Follow-up report No. 33
				2015	02/10/15	Follow-up report No. 34
				2015	21/10/15	Follow-up report No. 35

Chinese Taipei (event 3)	H5N8	2015	11/01/15	Immediate notification	2015	25/02/15	Immediate notification (tiger)
		2015	13/01/15	Follow-up report No. 1			Immediate notification
		2015	14/01/15	Follow-up report No. 2			Immediate notification
		2015	16/01/15	Follow-up report No. 3			Follow-up report No. 1
		2015	20/01/15	Follow-up report No. 4			Follow-up report No. 2
		2015	21/01/15	Follow-up report No. 5			Follow-up report No. 3
		2015	28/01/15	Follow-up report No. 6			Follow-up report No. 4
		2015	04/02/15	Follow-up report No. 7			Follow-up report No. 5
		2015	11/02/15	Follow-up report No. 8			Follow-up report No. 6
		2015	17/02/15	Follow-up report No. 9			Follow-up report No. 7
		2015	26/02/15	Follow-up report No. 10			Follow-up report No. 8
		2015	04/03/15	Follow-up report No. 11			Follow-up report No. 9
		2015	12/03/15	Follow-up report No. 12			Follow-up report No. 10
		2015	24/04/15	Follow-up report No. 13			Follow-up report No. 11
		2015	01/05/15	Follow-up report No. 14			Follow-up report No. 12
		2015	12/05/15	Follow-up report No. 15			Follow-up report No. 13
		2015	18/05/15	Follow-up report No. 16			Follow-up report No. 14
		2015	29/05/15	Follow-up report No. 17			Follow-up report No. 15
		2015	07/07/15	Follow-up report No. 18			Follow-up report No. 16
		2015	11/08/15	Follow-up report No. 19			Follow-up report No. 17
		2015	04/09/15	Follow-up report No. 20			Follow-up report No. 18
Chinese Taipei (event 4)	H5N3	2015	16/01/15	Immediate notification			Follow-up report No. 19
		2015	19/01/15	Follow-up report No. 1			Follow-up report No. 20
		2015	21/01/15	Follow-up report No. 2			Follow-up report No. 21
		2015	28/01/15	Follow-up report No. 3			Follow-up report No. 22
		2015	11/02/15	Follow-up report No. 4			Follow-up report No. 23
		2015	17/02/15	Follow-up report No. 5			Follow-up report No. 24
		2015	26/02/15	Follow-up report No. 6			Follow-up report No. 25
Côte d'Ivoire	H5N1	2015	28/05/15	Immediate notification			Follow-up report No. 26
		2015	05/06/15	Follow-up report No. 1			Follow-up report No. 27
		2015	05/08/15	Follow-up report No. 2			Follow-up report No. 28
		2015	25/08/15	Follow-up report No. 3			Follow-up report No. 29
		2015	01/09/15	Follow-up report No. 4			Follow-up report No. 30
Germany	H5N8	2015	09/01/15	Follow-up report No. 5			Follow-up report No. 31
		2015	22/01/15	Follow-up report No. 6			Follow-up report No. 32
		2015	26/01/15	Follow-up report No. 7			Follow-up report No. 33
		2015	04/03/15	Follow-up report No. 8			Follow-up report No. 34
		2015	06/03/15	Follow-up report No. 9			Follow-up report No. 35
		2015	27/04/15	Final report			
Germany	H7N7	2015	27/07/15	Immediate notification			
		2015	07/09/15	Follow-up report No. 1			

China (event 1)	Ghana	H5N1	2015	02/06/15	Immediate notification	(tiger)
Chinese Taipei (event 3)			2015	10/06/15	Follow-up report No. 1	1
Bhutan			2015	17/06/15	Follow-up report No. 2	2
Bulgaria			2015	28/06/15	Follow-up report No. 3	3
			2015	14/07/15	Follow-up report No. 4	4
			2015	21/07/15	Follow-up report No. 5	5
			2015	29/07/15	Follow-up report No. 6	6
			2015	05/08/15	Follow-up report No. 7	7
			2015	14/08/15	Follow-up report No. 8	8
Burkina Faso			2015	10/10/15	Follow-up report No. 9	9
			2015	22/10/15	Follow-up report No. 10	10
	Hong Kong (SAR-PRC)	H5N6	2015	16/04/15	Immediate notification (final report)	11
			2015	05/05/15	Immediate notification (final report)	12
Canada (event 1)	Hungary	H5N8	2015	25/02/15	Immediate notification	13
			2015	09/03/15	Follow-up report No. 1	14
Canada (event 2)			2015	17/03/15	Follow-up report No. 2	15
			2015	27/03/15	Follow-up report No. 3	16
Canada (event 3)			2015	02/04/15	Follow-up report No. 4	17
			2015	08/04/15	Final report	18
	India (event 1)	H5N1	2015	28/01/15	Follow-up report No. 5	19
			2015	10/07/15	Final report	20
Chinese Taipei (event 4)	India (event 2)	H5N1	2015	19/05/15	Final report	21
Canada (event 4)	India (event 3)	H5N1	2015	18/03/15	Immediate notification	22
China (People's Rep. of) (event 1)			2015	25/03/15	Follow-up report No. 1	23
			2015	19/05/15	Follow-up report No. 2	24
			2015	10/07/15	Follow-up report No. 3	25
China (People's Rep. of) (event 2)			2015	31/07/15	Final report	26
	Iran	H5N1	2015	15/06/15	Immediate notification	27
Côte d'Ivoire			2015	24/06/15	Follow-up report No. 1	28
			2015	01/07/15	Follow-up report No. 2	29
			2015	07/07/15	Follow-up report No. 3	30
			2015	29/07/15	Final report	31
	Israel	H5N1	2015	18/01/15	Immediate notification	32
China (People's Rep. of) (event 3)			2015	25/01/15	Follow-up report No. 1	33
Germany			2015	02/02/15	Follow-up report No. 2	34
			2015	12/02/15	Follow-up report No. 3	35
			2015	01/03/15	Final report	
			2015	12/05/15	Immediate notification	
			2015	20/06/15	Follow-up report No. 1	
			2015	17/08/15	Final report	
Germany	Italy	H5N8	2015	27/07/15	Immediate notification	
			2015	07/09/15	Follow-up report No. 1	
			2015	20/10/15	Follow-up report No. 1	

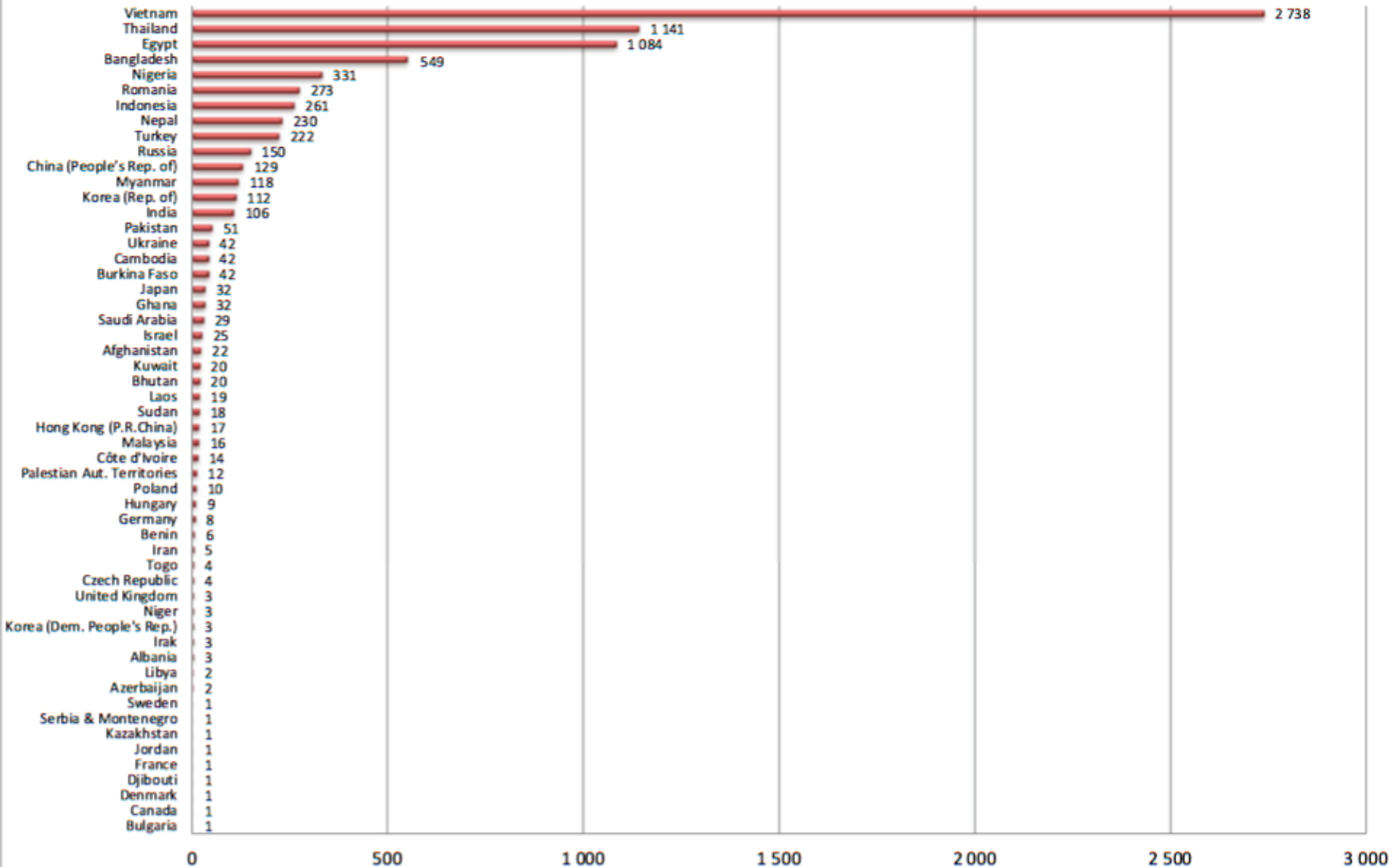
Japan	H5N8	2015	09/01/15	Follow-up report No. 9
		2015	16/01/15	Follow-up report No. 10
		2015	20/01/15	Follow-up report No. 11
		2015	30/01/15	Follow-up report No.12
		2015	05/02/15	Follow-up report No. 13
		2015	13/02/15	Follow-up report No. 14
		2015	20/02/15	Follow-up report No. 15
		2015	24/04/15	Final report
Kazakhstan	H5N1	2015	22/05/15	Immediate notification
		2015	17/06/15	Final report
Korea (Rep. of) (event 1)	H5N8	2015	13/03/15	Final report
Korea (Rep. of) (event 2)	H5N8	2015	04/03/15	Follow-up report No. 1
		2015	28/07/15	Follow-up report No. 2
		2015	19/09/15	Follow-up report No. 3
Laos	H5N6	2015	08/10/15	Immediate notification
Libya	H5N1	2015	16/02/15	Immediate notification
Mexico	H7N3	2015	09/04/15	Final report
Mexico (event 1)	H7N3	2015	08/04/15	Immediate notification
Mexico (event 2)	H7N3	2015	08/05/15	Immediate notification
Myanmar	H5N1	2015	28/02/15	Immediate notification
		2015	15/05/15	Follow-up report No. 1
Netherlands	H5N8	2015	02/02/15	Follow-up report No. 4
		2015	29/04/15	Final report
Niger	H5N1	2015	21/04/15	Immediate notification

China (People's Rep. of) (event 3)	H5N1	2015	05/08/15	Follow-up report No. 2
		2015	25/08/15	Follow-up report No. 3
Germany	H5N8	2015	01/09/15	Follow-up report No. 4
		2015	09/01/15	Follow-up report No. 5
		2015	22/01/15	Follow-up report No. 6
		2015	26/01/15	Follow-up report No. 7
		2015	04/03/15	Follow-up report No. 8
		2015	06/03/15	Follow-up report No. 9
Germany	H7N7	2015	27/04/15	Final report
		2015	27/07/15	Follow-up report No. 10
		2015	07/09/15	Follow-up report No. 11

Japan	Ghana	Y. China (People's Rep. of)	H5N1	2015	16/01/15	Immediate notification	
China (Taipei) (event 3)		Chinese Taipei		2015	19/01/15	Follow-up report No. 1	
Bhutan		Chinese Taipei		2015	26/01/15	Follow-up report No. 2	
Bulgaria		H5N1		2015	18/02/15	Follow-up report No. 3	
				2015	02/03/15	Follow-up report No. 4	
				2015	03/05/15	Follow-up report No. 5	
				2015	13/05/15	Follow-up report No. 6	
				2015	16/07/15	Follow-up report No. 7	
				2015	29/07/15	Follow-up report No. 8	
Burkina Faso		H5N1		2015	04/08/15	Follow-up report No. 9	
				2015	11/08/15	Follow-up report No. 10	
Kazakhstan	Hong Kong (SAR-PRC)	H5N1		2015	17/08/15	Follow-up report No. 11	
				2015	03/09/15	Follow-up report No. 12	
				2015	08/09/15	Follow-up report No. 13	
Korea (Rep. of) (event 1)	H5N2	H5N1		2015	14/09/15	Follow-up report No. 14	
Korea (Rep. of) (event 2)	Hungary	H5N1		2015	21/09/15	Follow-up report No. 15	
				2015	22/09/15	Follow-up report No. 16	
Canada (event 2)		H5N1		2015	23/09/15	Follow-up report No. 17	
				2015	28/09/15	Follow-up report No. 18	
Canada (event 3)		H5N2		2015	06/10/15	Follow-up report No. 19	
Laos				2015	15/10/15	Follow-up report No. 20	
Libya	India (event 1)	H5N1		2015	19/10/15	Follow-up report No. 21	
Mexico		H5N1	Nigeria (event 2)	H5N1	2015	09/01/15	Immediate notification
China (Taipei) (event 4)	India (event 2)	H5N1		2015	16/01/15	Follow-up report No. 1	
Mexico (event 1)	India (event 3)	H5N1		2015	23/01/15	Follow-up report No. 2	
Canada (event 4)		H5N1		2015	02/02/15	Follow-up report No. 3	
Mexico (event 2)	China (People's Rep. of) (event 1)	H5N2		2015	19/02/15	Follow-up report No. 4	
Myanmar				2015	02/03/15	Follow-up report No. 5	
				2015	13/05/15	Follow-up report No. 6	
China (People's Rep. of) (event 2)		H5N6		2015	22/06/15	Follow-up report No. 7	
Netherlands	Iran			2015	07/07/15	Follow-up report No. 8	
Côte d'Ivoire		H5N1		2015	04/08/15	Follow-up report No. 9	
Niger				2015	26/08/15	Follow-up report No. 10	
				2015	14/09/15	Follow-up report No. 11	
				2015	19/09/15	Follow-up report No. 12	
				2015	08/10/15	Follow-up report No. 13	
China (People's Rep. of) (event 3)	Israel	H5N1	Palestinian Auton. Territories (event 1)	H5N1	2015	20/01/15	Immediate notification
Germany		H5N8			2015	24/01/15	Follow-up report No. 1
					2015	13/02/15	Follow-up report No. 2
					2015	20/02/15	Follow-up report No. 3
					2015	14/03/15	Final report
				2015	17/08/15	Final report	
Germany	Italy	H7N7	Avian Influenza A/Ankara/60/15		2015	07/09/15	Follow-up report No. 34
					2015	07/09/15	Follow-up report No. 35

Japan	Ghana	Nigeria (event 1)	2015	09/01/15	Immediate notification
China (Peop. Rep. of) (event 3)	H5N8	H5N8	2015	10/06/15	Follow-up report No. 1
Bhutan	H5N1	H5N1	2015	13/01/15	Follow-up report No. 2
Bulgaria	H5N1	H5N1	2015	14/01/15	Follow-up report No. 3
	H5N1	H5N1	2015	16/01/15	Follow-up report No. 4
	H5N1	H5N1	2015	20/01/15	Follow-up report No. 5
	H5N1	H5N1	2015	21/01/15	Follow-up report No. 6
	H5N1	H5N1	2015	28/01/15	Follow-up report No. 7
	H5N1	H5N1	2015	04/02/15	Follow-up report No. 8
Burkina Faso	H5N1	H5N1	2015	11/02/15	Follow-up report No. 9
	H5N1	H5N1	2015	17/02/15	Follow-up report No. 10
Kazakhstan	Hong Kong (SAR-PRC)	H5N1	2015	22/05/15	Immediate notification
	H5N1	H5N1	2015	04/03/15	Follow-up report No. 11
	H5N1	H5N1	2015	12/03/15	Follow-up report No. 12
Korea (Rep. of) (event 1)	H5N2	H5N8	2015	13/03/15	Final report
Korea	Turkey	H5N1	2015	04/05/15	Immediate notification
			2015	11/05/15	Follow-up report No. 1
			2015	18/05/15	Follow-up report No. 2
			2015	25/05/15	Follow-up report No. 3
			2015	27/05/15	Follow-up report No. 4
			2015	29/05/15	Follow-up report No. 5
			2015	15/06/15	Follow-up report No. 6
			2015	26/06/15	Follow-up report No. 7
			2015	10/07/15	Follow-up report No. 8
			2015	03/08/15	Follow-up report No. 9
			2015	15/08/15	Final report
Côte d'Ivoire	H5N1	H5N1	2015	29/04/15	Final report
Niger	H5N1	H5N1	2015	21/04/15	Immediate notification
	H5N1	H5N1	2015	05/08/15	Follow-up report No. 1
	H5N1	H5N1	2015	25/08/15	Follow-up report No. 2
	H5N1	H5N1	2015	01/09/15	Follow-up report No. 3
China (People's Rep. of) (event 3)	H5N1	H5N1	2015	25/01/15	Follow-up report No. 1
Germany	H5N8	H5N8	2015	02/02/15	Follow-up report No. 2
	H5N8	H5N8	2015	22/01/15	Follow-up report No. 3
	H5N8	H5N8	2015	26/01/15	Follow-up report No. 4
	H5N8	H5N8	2015	04/03/15	Follow-up report No. 5
	H5N8	H5N8	2015	06/03/15	Follow-up report No. 6
	H5N8	H5N8	2015	27/04/15	Final report
	H5N8	H5N8	2015	27/07/15	Follow-up report No. 1
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 2
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 3
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 4
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 5
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 6
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 7
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 8
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 9
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 10
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 11
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 12
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 13
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 14
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 15
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 16
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 17
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 18
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 19
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 20
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 21
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 22
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 23
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 24
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 25
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 26
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 27
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 28
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 29
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 30
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 31
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 32
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 33
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 34
	H5N8	H5N8	2015	07/09/15	Follow-up report No. 35

Outbreaks of Highly Pathogenic Avian Influenza (subtype H5N1) in poultry notified to the OIE * from the end of 2003 to 29 October 2015



* The addition into the graph of outbreaks of HPAI H5N1 reported from Egypt and Indonesia has been suspended since 26/09/2006 for Indonesia and 07/07/2008 for Egypt, dates for which they declared the disease as endemic. The number of outbreaks of HPAI for these two countries could be found in their respective six-monthly reports.

Avian Influenza Ateş Kara

1 Ocak 2015 -
1 Kasım 2015

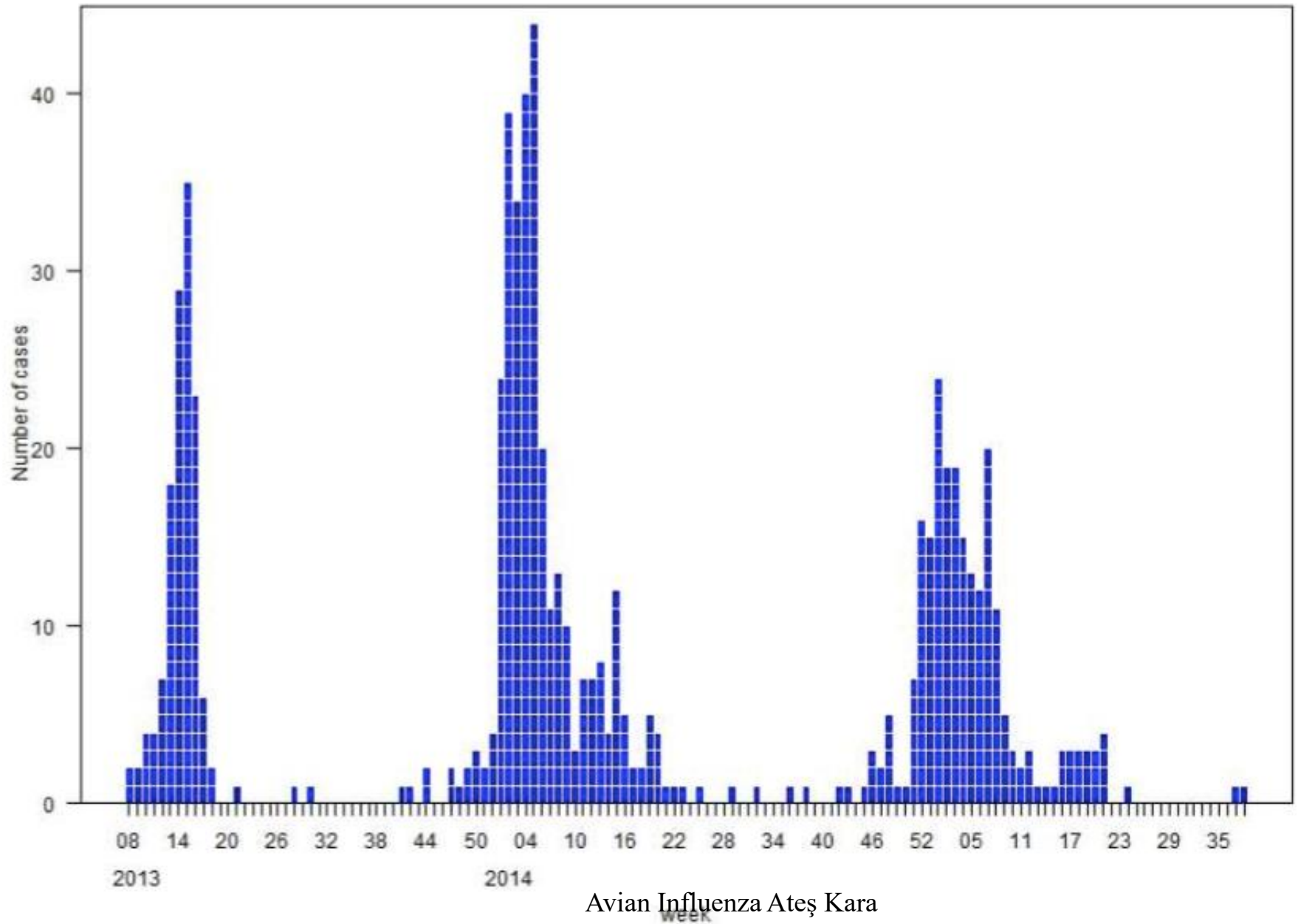


Avian Influenza: İnsan Vaka ve Kayıp Sayısı

H5N1 - 2003 - 15 Ekim 2015

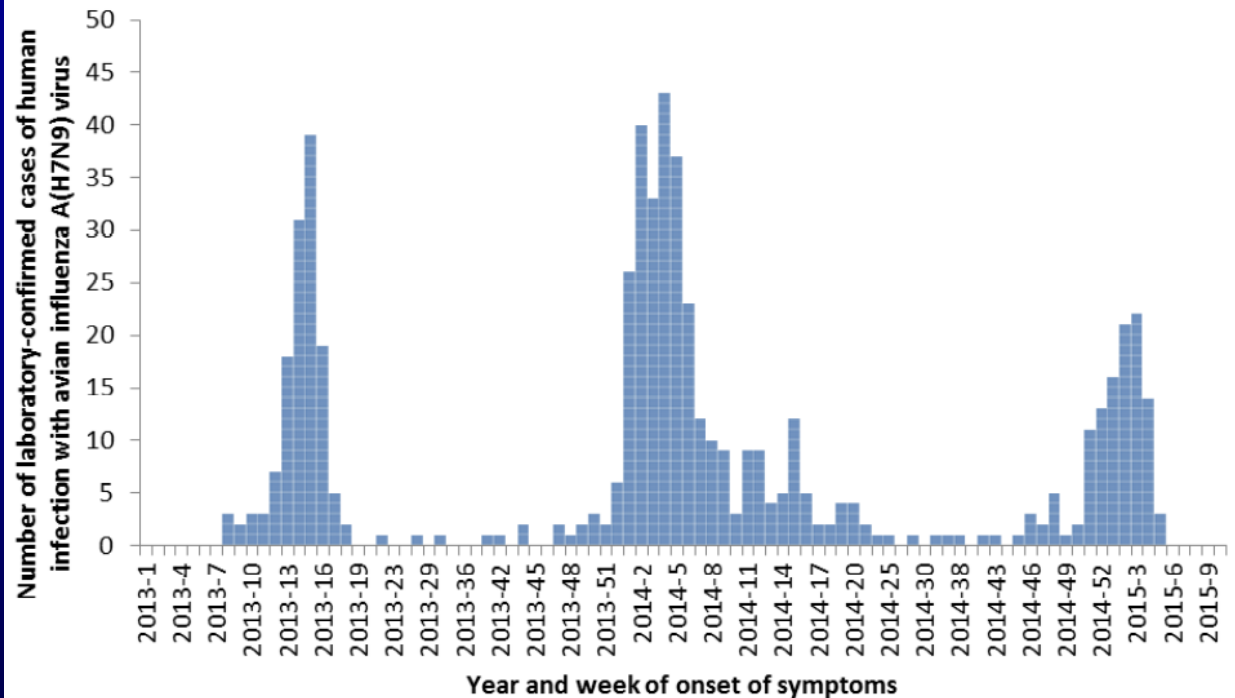
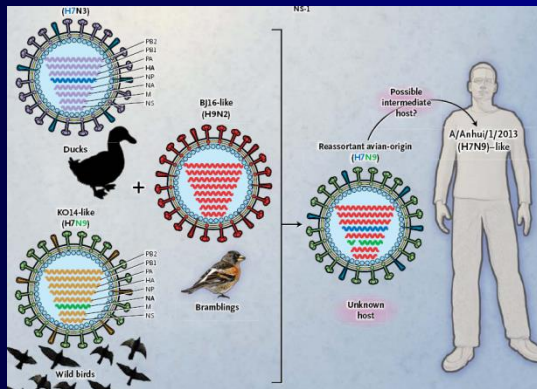
Country	2003-2009*		2010		2011		2012		2013		2014		2015		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	0	0	2	0	3	0	1	1	0	0	0	0	7	1
Cambodia	9	7	1	1	8	8	3	3	26	14	9	4	0	0	56	37
Canada	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
China	38	25	2	1	1	1	2	1	2	2	2	0	5	1	52	31
Djibouti	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Egypt	90	27	29	13	39	15	11	5	4	3	37	14	136	39	346	116
Indonesia	162	134	9	7	12	10	9	9	3	3	2	2	2	2	199	167
Iraq	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Myanmar	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nigeria	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
Viet Nam	112	57	7	2	0	0	4	2	2	1	2	2	0	0	127	64
Total	468	282	48	24	62	34	32	20	39	25	52	22	143	42	844	449

Number of Confirmed Human H7N9 Cases
by week as of 2015-10-15



H7N9 Sorunu

A total of 571 laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 212 deaths, have been reported to WHO: 568 cases from China including 552 cases by the China National Health and Family Planning Commission, four (4) cases reported by the Taipei Centers for Disease Control (Taipei CDC), and twelve (12) cases reported by the Centre for Health Protection, Hong Kong SAR. One (1) case in a Chinese traveller reported by Malaysia, and two (2) in travellers reported by Canada. The two cases reported from Canada were travellers returning from China on 12 Jan 2015.





SARS-CoV (2003)
NL63-CoV (2004)
MERS-CoV (2012)
??-CoV (20..)

ÖLÜMCÜL SEYREDEN Enfeksiyon Etkenleri

H5N1 (1998, 2004)
H7N7 (2004)
H1N1 (2009)
H7N9 (2013)
H?N? (20..)



Avian Influenza: Konak



Ekzotik kuşlar



Kümes hayvanları



Avian Influenza Ateş Kara

Avian Influenza: Konak

Avian Influenza: Konak



Ekzotik kuşlar

Kümes hayvanları



Avian Influenza Ateş Kara



Çekirge kuşu



Serçe

Kanarya

Avian Influenza: Konak

Avian Influenza: Konak



Ekzotik kuşlar

Kümes hayvanları



Avian Influenza Ateş Kara



Çekirge kuşu

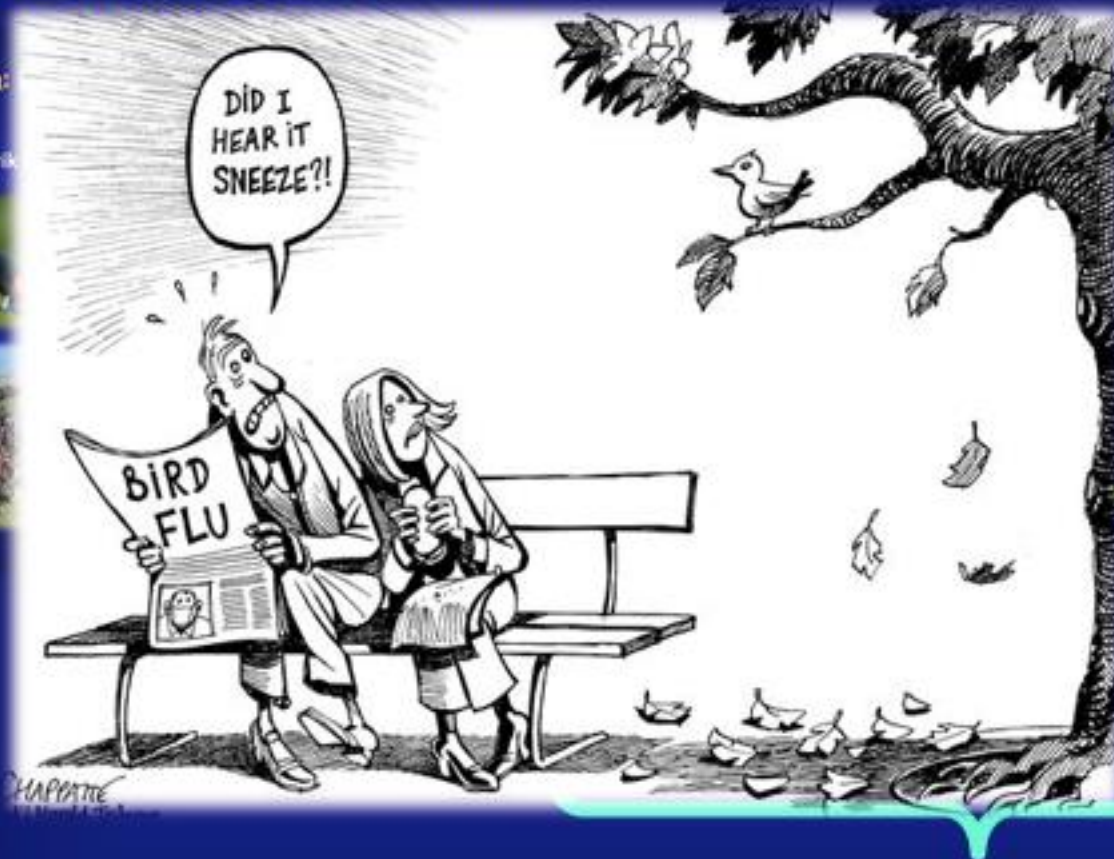


Serçe

Kanarya

Nadir, ancak hastalık ve bulaş gösterilmiş

Avian Influenza: Konak



kirge kuşu

Serçe

Nadir, ancak hastalık ve bulaş gösterilmiş

Avian Influenza: Konak

Avian Influenza: Konak



Çekirge kuşu



Serçe

Kanarya

Nadir, ancak hastalık ve bulaş gösterilmiş

Avian Influenza Ateş Kara

1. Anseriformes; Kaz ve benzer göçer su kuşları



2. Charadriiformes; Martı ve benzeri su kuşları



Genellikle klinik bulgu göstermezler

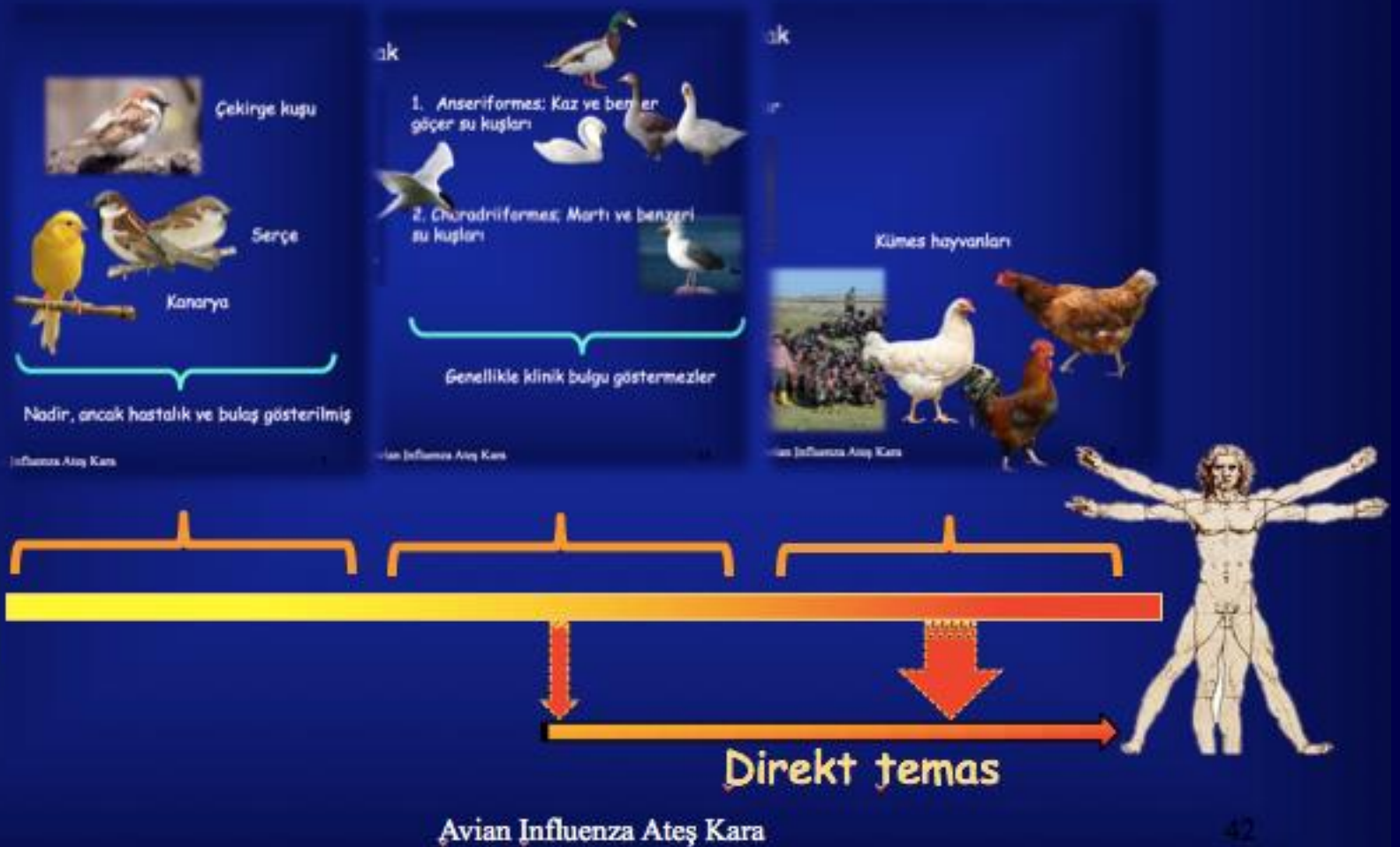
STAR TRIBUNE
S&K



Avian Influenza: Bulaş



Avian Influenza: Bulaş



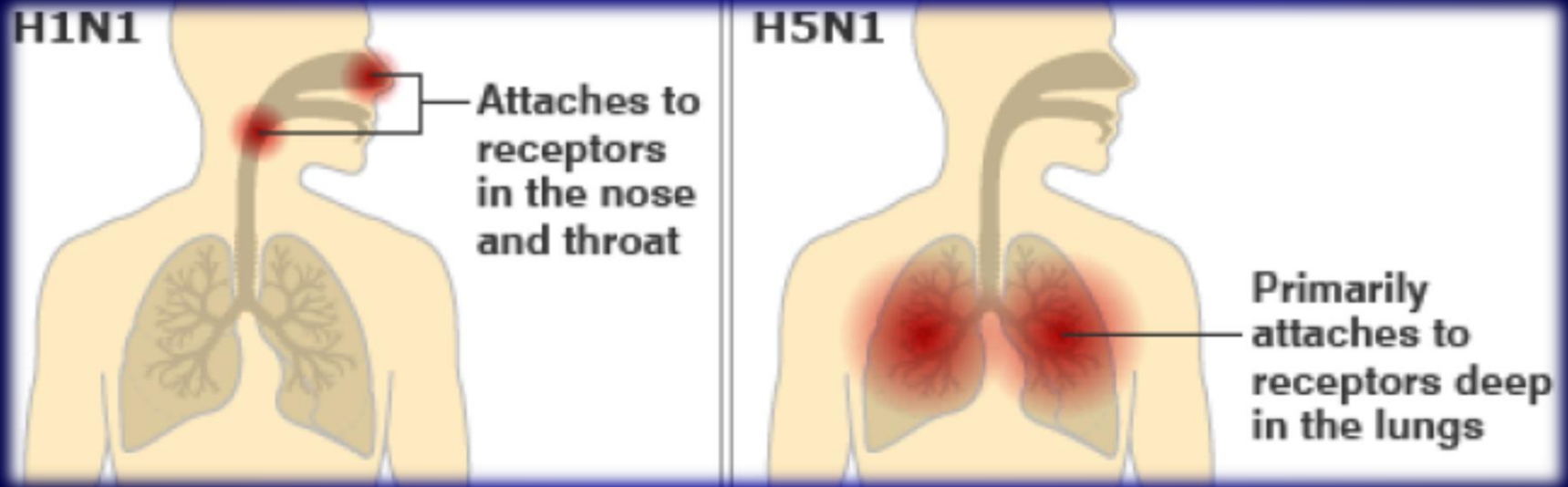
Avian Influenza: Bulaş



Avian Influenza: Bulaş



H1N1 / H5N1 suşlarının Hedef Reseptörleri



α 2,6 konformasyonlu reseptör



α 2,3 konformasyonlu reseptör



Acute Respiratory Distress Syndrome Induced by Avian Influenza A (H5N1) Virus in Mice

Tong Xu, Jian Qiao, Lihong Zhao, Gulrong Wang, Gulmei He, Kai Li, Yong Tian, Mingyu Gao, Jianlin Wang, Huiyu Wang, and Changgui Dong

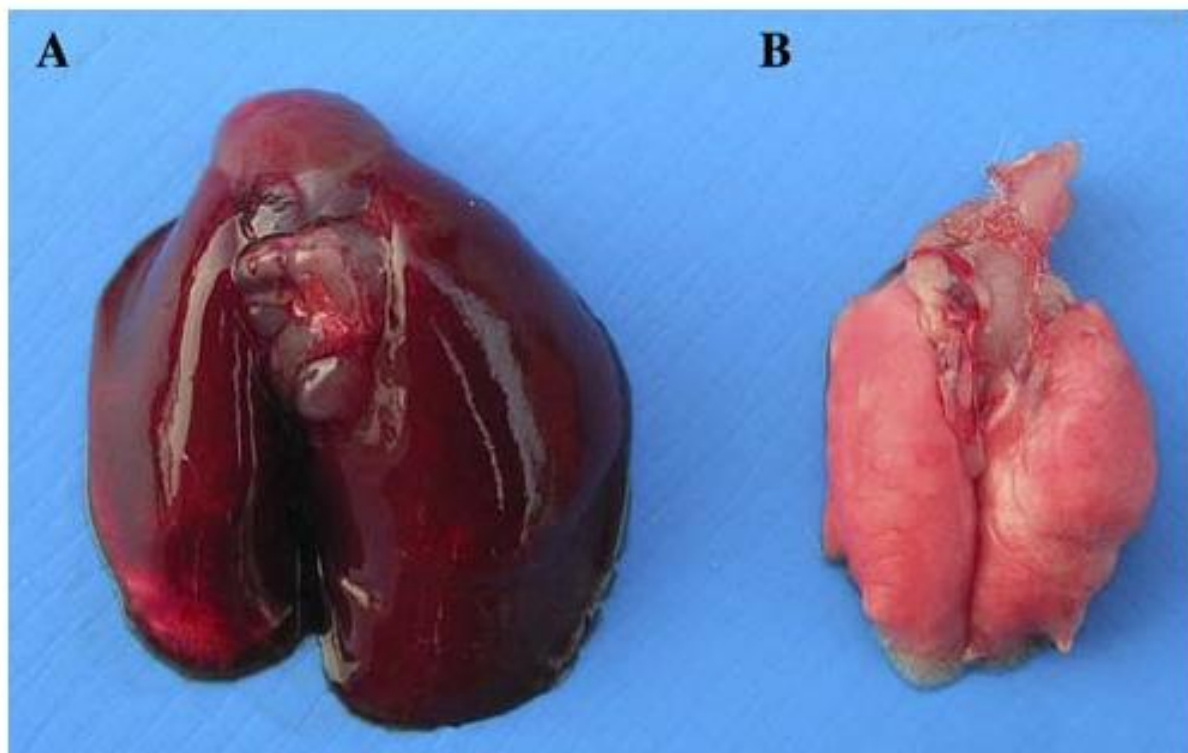
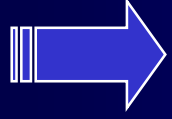


Figure 1. Gross pathology of H5N1 virus-infected lung. (A) H5N1 virus-infected lung 6 d postinoculation, displaying highly edematous, congestive, and hemorrhagic changes. (B) Noninfectious allantoic fluid-inoculated control lung 6 d postinoculation.

Diagram illustrating the structure of the Influenza A Virus (IAV) particle. The virus is spherical, composed of a lipid bilayer (outer layer) and a matrix (inner layer). The surface is studded with viral proteins, including Hemagglutinin (HA) spikes (purple) and M₂ ion channels (red). The internal core contains viral RNA segments (PB1, PB2, PA, PB2, PB1, PA, HA, NP, NA, M1, M2, M1, M2) and the M2 matrix protein. The diagram is labeled with '3' and '4' in large orange and green numbers respectively.

Protein	Virus	Mutation	Pathogenic effect
HA	H7N7	A143T	Increased attachment to bronchial epithelial cells and alveolar macrophages in humans
HA	1918 virus	D190E, D225G	From $\alpha 2,6$ to $\alpha 2,3$ (loss of transmission ability)
HA	Pandemic A(H1N1) 2009	D222G	From $\alpha 2,6$ to $\alpha 2,3$ Infection of ciliated bronchial epithelial cells
NA	H3N2	R292K, E119V, N294S	Oseltamivir-resistant (R292K, loss of transmission ability)
NA	H5N1	H274Y	Oseltamivir-resistant
PB1-F2	1918 virus	N66S	Delay of innate immune responses
PB2	H5N1	T271A	Increased polymerase activity in mammalian cells
PB2	H5N1, H7N7	E627K	Increased replication in mammalian respiratory tract
PB2	H5N1	D701N	Increased ability to replicate in mice
PA	H5N2	T97I	Adaptation in mice
NS1	H5N1	P42S	Increase in IFN antagonism
NS1	H5N1	Deletion from 85-94	Impaired inhibition of IFN production
NS1	H3N8 (duck), WSN	R127K, V205I, N209D	Increased replication and lethality in mice (R127K, loss of PKR binding)
NS1	H5N1	D92E	Low sensitivity to IFN and TNF α

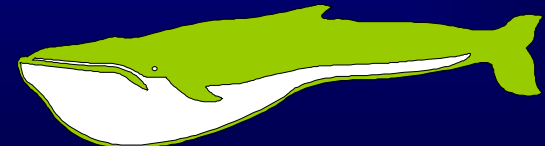
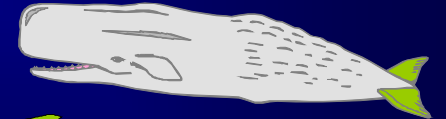
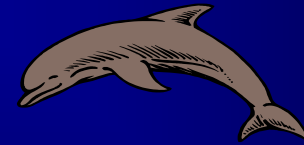
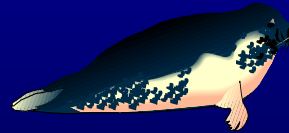
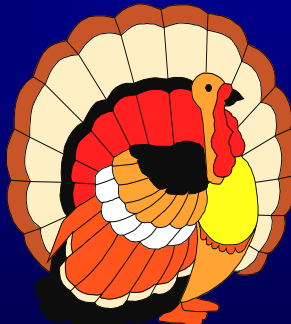
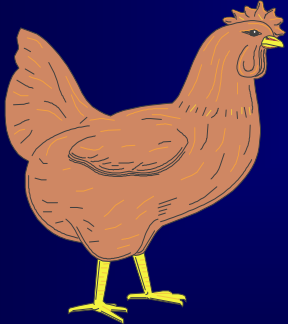
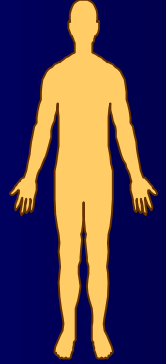
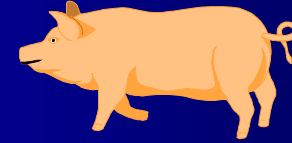
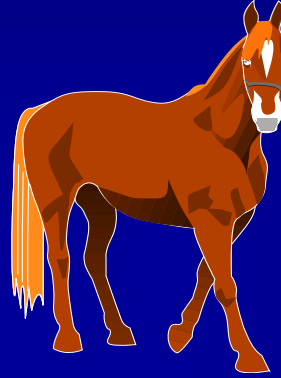
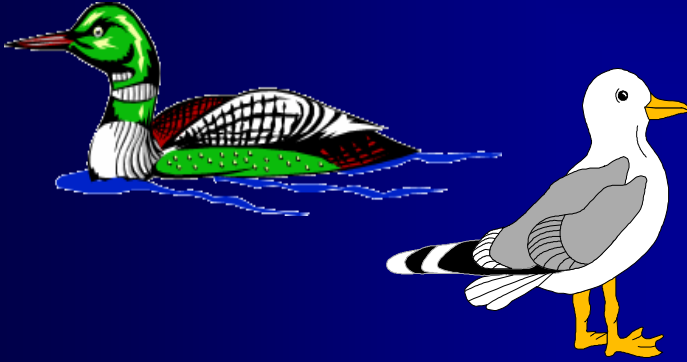
Influenza virüslerinin tropizm özellikleri



Sindirim sistemi

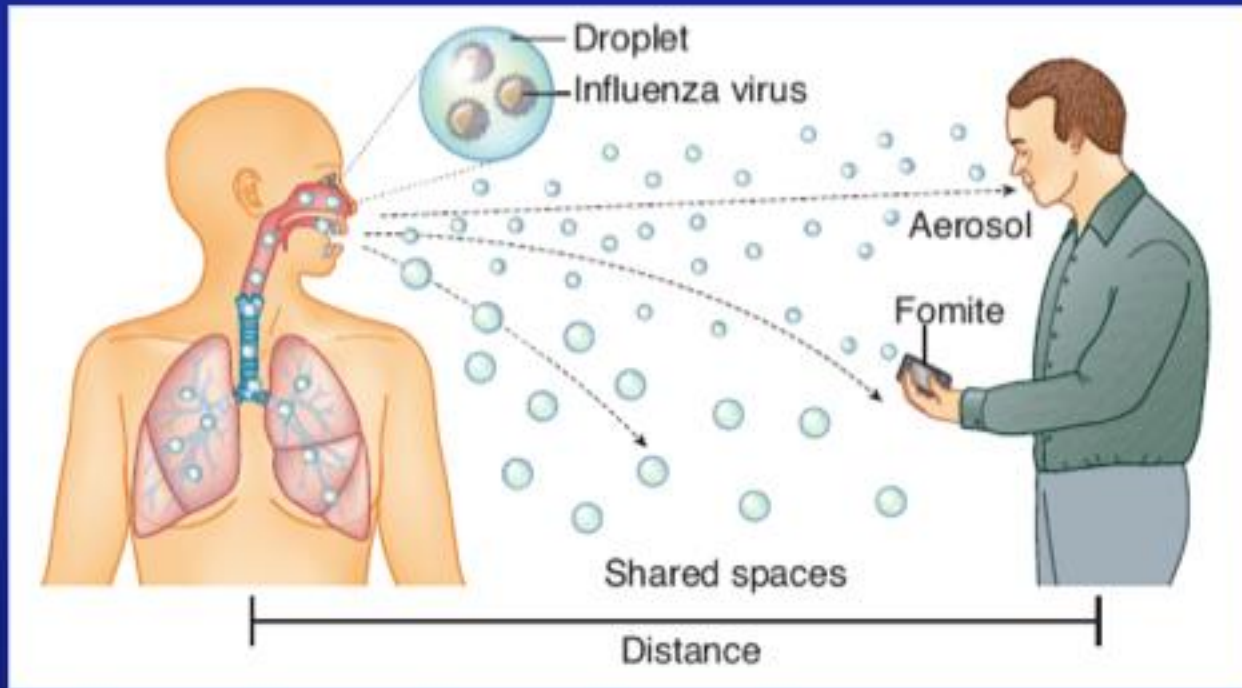


Solunum sistemi



Kanatlı ve insan virüslerinin bağlandıkları reseptörler farklı

Influenza Virüslerinin Bulaş Yolları



Direkt bulaş: enfekte bireyden, duyarlı konağa direkt fiziksel temas ile bulaş

İndirekt bulaş: duyarlı konağa bir aracı üzerinden (kontamine eşyalar vb) ile pasif bulaş

Droplet (damlacık) ile bulaş: enfekte bireyin öksürmesi, hapşırması vb ile saçılan geniş damlacıklar ($>5\mu\text{m}$) ile bulaş; $<1\text{m}$ ye gider ve havada asılı kalmaz

Airborne (hava yolu) ile bulaş: etkenin $<5\mu\text{m}$ damlacıkların çekirdeği / tozlar içinde bulaşı; uzağa gidebilen, havada asılı kalan partiküller söz konusu

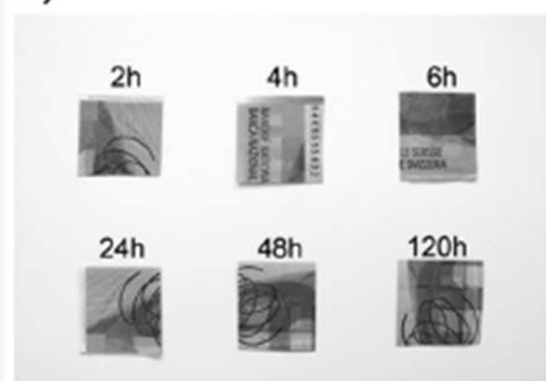
Bulaş Yolları Belirleyicileri

- Virüs atımı süresi
 - *asemptomatik / hospitalize olgularda farklı*
 - *doğal enfeksiyon sonrası inceleme yok !*
 - *alınan örneğe, kullanılan yöntem, olgunun yaşına göre değişiyor*
- Virüsün dış koşullara direnci
 - Plastikte, çelikte : >24-48 s
 - Kumaş, kağıtta : 8-12 s
 - Ellerde : 5 dk

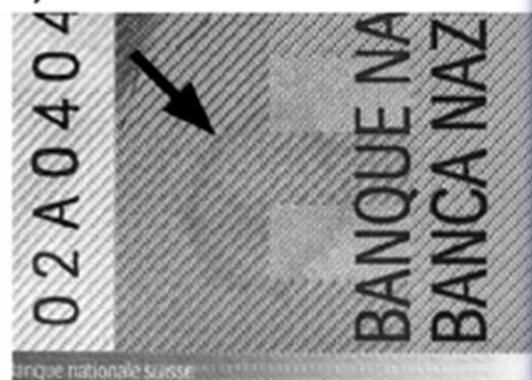
Survival of Influenza Virus on Banknotes[▽]

Yves Thomas,^{1,2*} Guido Vogel,³ Werner Wunderli,^{1,2} Patricia Suter,² Mark Witschi,⁴ Daniel Koch,⁴
Caroline Tapparel,¹ and Laurent Kaiser^{1,2}

a)



b)



c)



d)





Avian İnfluenza Ateş Kara

Güvenli beslenme için 5 anahtar



Temizliğe önem verin

- ✓ Yemek yapmaya başlamadan önce de, yemek hazırlarken de ellerinizi sık sık yıkayın.
- ✓ Tuvaletten çıktıktan sonra ellerinizi mutlaka yıkayın.
- ✓ Yemek hazırlarken kullandığınız aletleri ve taşıyıcı temizleyerek mikroplardan arındırsın.
- ✓ Mutfakınız ve yiyeceklerinizi zararlı böcek, hayvan ve diğer hayvanlardan koruyun.

Neden?

Toprakta, suya, hayvandan ve insanlardan pek çok tehlikeli mikroorganizma bulunur. Bu mikroplar eller, mutfak bulaçları ve özellikle doğrudan tahta gibi mutfak aletleriyle taşıyıcı, bu farkına bile varmadan yiyeceklerimize bulaşır, gözü kayıtsız geçirmesine ve hastalıklara neden olur.



Pişmiş ve çiğ gıdaları ayrı tutun

- ✓ Et, tavuk, balık gibi çiğ yiyecekleri diğer gıdalarla temas ettirmeyin.
- ✓ Bıçaklar, doğrama tahtaları gibi mutfak aletlerini çiğ yiyeceklerde kullandıysanız, başka yiyeceklerde kullanmayın.
- ✓ Yemeye hazır gıdaların çiğ gıdalarla temasını engellemek için kapalı uygun kaplarda saklayın.

Neden?

Özellikle et, köken hayvanları, deniz ürünleri gibi çiğ gıdalar ve bunların saklandığı tefekli mikroplar olabilir. Bu tehlikeli mikroplar yemek hazırlama ya da saklama esnasında diğer gıdalara da bulaşabilir.

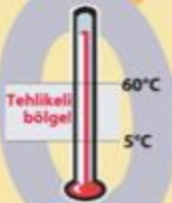


İyiye pişirin

- ✓ Özellikle et, tavuk, yumurta ve balık gibi gıdaları iyiye pişirin.
- ✓ Çorba ve suyu yemekleri tamamen piştiğinden emin olana dek kaynatın (100°C). Et ve tavuğun suyu karık değil, berrak olmalıdır. En iyi ölçü termometre kullanmaktır.
- ✓ Pişmiş yemeği tekrar ısıtarken tamamen ısınmasına dikkat edin.

Neden?

Doğru pişirmek, yiyeceklerdeki tehlikeli mikropların hemen hepsini yok edebilir. Yapılan araştırmalar 70°C'ye kadar ısıtılan gıdaların penesinin gözlemlenebilir olduğunu göstermektedir. Özellikle kıyma, rotda, et kemikli et parçaları ve bütün tavuk pişirmek buna dikkat gösterir.



Yiyeceklerinizi doğru ısıda saklayın

- ✓ Pişmiş yemekleri oda ısısında 2 saatten fazla bırakmayın.
- ✓ Tütsü pişmiş ve buzdolabı yiyecekleri hemen buzdolabına koyun (buzdolabının içi 5°C'den soğuk olmalıdır).
- ✓ Pişmiş yemekler tabağa koyana dek sıcak tutulmalıdır (80°C üzerindedir).
- ✓ Yiyecekleri buzdolabında bile olsa uzun süre saklamayın.
- ✓ Donmuş gıdalar oda ısısında bekleterek çözmeyin.

Neden?

Oda ısısında bırakılan yiyeceklerde mikroplar hızla ürer. 5°C'den soğukta ve 60°C'den sıcakta ise mikroplar üremez ya da üremesi yavaşlar. Ancak bazı tehlikeli mikroplar 5°C'den soğukta bile üreyebilir.



Temiz su, temiz malzeme kullanın

- ✓ Temiz su kullanın.
- ✓ Etik, çürük olmayan taze gıdaları seçin.
- ✓ Pastörize süt gibi, mikroplardan arındırılmış gıdaları seçin.
- ✓ Çiğ yenilecek sebze ve meyveleri iyiye yıkayın.
- ✓ Son kullanma tarihi geçen gıdaları yemeyin.

Neden?

Su ve buz da dahil, her maddede tehlikeli mikroplar ve kimyasal maddeler bulunabilir. Havasız ve pastörize yiyeceklerde zararlı kimyasal maddeler olabilir. Çiğ malzemeyi ısıtma seçmek ya da saklama yapmak ve soymak gibi bazı önlemler tehlikeyi en aza indirir.

Bilmek = Korunmak

Avian Influenza Ateş Kara



Kişisel koruyucu ekipman kullanılmalı

1. Ayak koruyucu - Çizme
2. Koruyucu t m -  nl k - tulum,
3. Eldiven,
4. Maske,
5. G zl k ve y z sperlięi
6. T m kıyafetler dezenfekte edilmeli,

T m temaslılar yedi g n s resince g nde iki kez ateş  l  m  ile izlenmeli

Avian Influenza Ateş Kara

Bird flu and danger to humans

Bird flu, or avian flu, has a high mortality rate in humans, but as of yet, can ~~not~~ be transmitted from person to person.

... WHO, February 20th, 2006:
"Human infections remain a rare event."

Infection with type A virus H5N1

- 1** Most virulent bird flu virus; mutates rapidly, altering its genetic material
- 2** Humans infected by close contact with live infected poultry
- 3** Birds carry virus and excrete it in feces, which dries, becomes pulverized and then can be inhaled or taken in by touch
- 4** Humans have no immunity against this virus

Reason for concern

Humans infected with bird flu could serve as a host for a new genetic subtype that can be transmitted from person to person

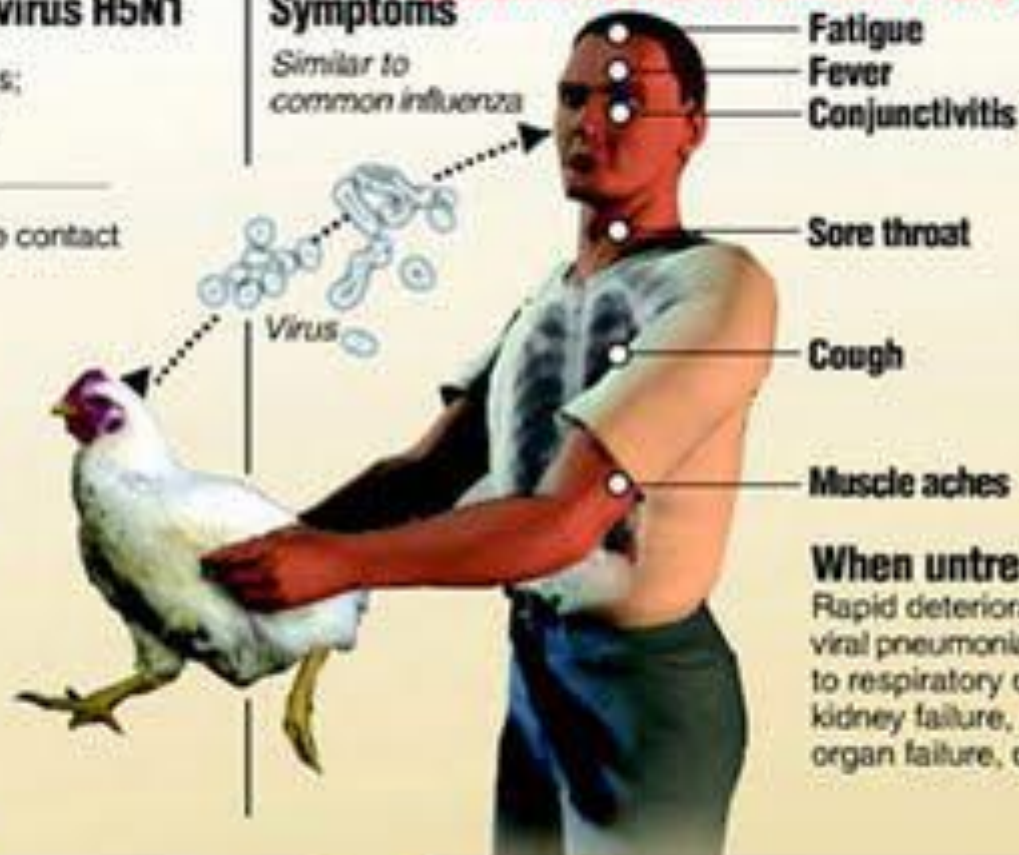


Might start influenza pandemic



Symptoms

Similar to common influenza



When untreated

Rapid deterioration; viral pneumonia leading to respiratory distress, kidney failure, multi-organ failure, death



Yumurta kuş gribi
için kaynak
olabilir mi ?



Yumurta kuş gribi
için kaynak
olabilir mi ?

1983 Pensilvanya'da ki
salgın sırasında, hem
sarısında hem de beyazında
virüs gösterildi



Swayne DE and Beck JR. 2004. Heat inactivation of avian influenza and Newcastle disease viruses in egg products. Avian Pathology 33:512-8.



Yumurta kuş gribi
için kaynak
olabilir mi ?

1983 Pensilvanya'da ki
salgın sırasında, hem
sarısında hem de beyazında
virüs gösterildi



Swayne DE and Beck JR. 2004. Heat inactivation of avian influenza and Newcastle disease viruses in egg products. Avian Pathology 33:512-8.



Yumurta kuş gribi
için kaynak
olabilir mi ?



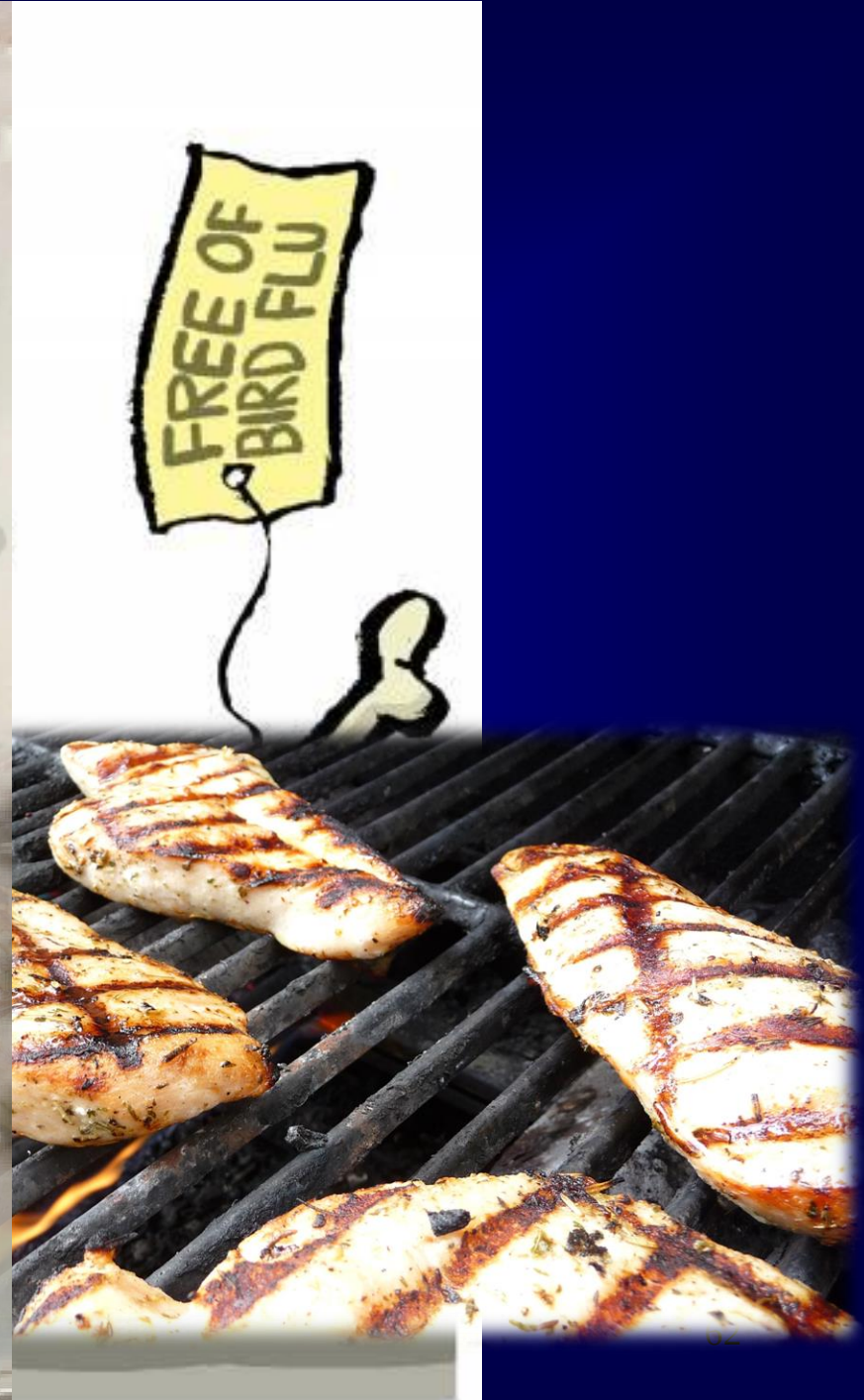
Cheng A. 2005. EU warns on raw eggs; China has new bird flu outbreak. Bloomberg, October 26.

International Food Safety Authorities Network. 2004. Highly pathogenic avian influenza H5N1 outbreaks in poultry and humans: food safety implications. INFOSAN Information Note No. 2/04-Avian Influenza.

Avian Influenza Ateş Kara







Yumurta sektörüne "kuş gribi" faturası

Yumurta Üreticileri Merkez Birliği (YUM-BİR) Genel Sekreteri Hüseyin Sungur, geçen nisan'dan mayısa kadar bazı bölgelerde etkili olan kuş gribi nedeniyle sektörün doğrudan ekonomik kaybının, 200 milyon lirayı aştığını bildirdi.

02.06.2015-11:27
A+ A-

iki bir

Milliyet.com.tr » Gündem » Haber
Korkulan oldu! Kuş gribi
Kartal ve Arnavutköy'de görülen kuş gribi, kanatlı hayvanlara ve insanlara kadar her türlü kara avı yasağına rağmen...

02.07.2015

Tavuk ve yumurtayı beş dakika fazla pişirin

Üç ildeki kuş gribi şüphesi üzerine uzman uyarısı: İyi pişmiş tavuk ve yumurtada virüs yaşamaz, risk yoktur.

Milliyet.com.tr » Ekonomi » Haber

Kuş gribi bu kez
Kuş gribi Bursa'da Mudanya'da tavuk çiftliğinde ortaya çıktı.



"Kuř gribi havaların ısınmasıyla gündemden düşecek"



02.06.2015

Saęlık Bakanı Müezzinoęlu, Mudanya'daki kuř gribi řüphesine ilişkin, "Beyaz etle, yumurtayla, tavuk etiyle ilgili herhangi bir risk söz konusu deęil" dedi.

Tavuk çiftliklerinde 2 haftaya kadar virüs varlığını devam ettirebiliyor.

Profilaksi

Profilaksi doęrulanmıř veya olası vaka ile ilk temastan sonra m¼mk¼n olduęu kadar abuk, ilk 48 saat iinde bařlanmalıdır.



Profilaksi

Profilaksi doğrulanmış veya olası vaka ile ilk temastan sonra mümkün olduğu kadar çabuk, ilk 48 saat içinde başlanmalıdır.

Bu mümkün değil ise son temastan sonraki 7 gün içerisinde profilaksi başlanabilir.



Profilaksi

Profilaksi doğru kullanıldığında veya olası vaka ile ilk temastan sonra mümkün olduğunda hızlıca, ilk 48 saat içinde başlanmalıdır.

Kemoprofilaksi için oseltamivir, standart influenza profilaksisi (1x75mg) yerine, tedavi dozunda (2x75mg), 5 gün süre ile verilmelidir.

Bu mümkün değil ise son temastan sonraki 7 gün içerisinde profilaksi başlanabilir.

