



# **VETERINARIA**

RIVISTA DI  
SANITÀ PUBBLICA  
VETERINARIA

# **ITALIANA**

**Supplementary material**



Map layers available for viewing at <https://arcg.is/PGrK>

Map layers available for download at <https://github.com/guymcgrath/Fragmentation>

County	N. Active farms	N. Single Fragment Farms	N. of Multi-Fragment farms	Av. Number of Farm Fragments	Av. Dist. Between Fragments (metres)
Carlow	1,122	182	940	4.08	2,267
Cavan	4,363	754	3,609	3.77	2,276
Clare	5,778	913	4,865	4.19	2,617
Cork	10,611	2,284	8,327	3.63	2,584
Donegal	4,840	662	4,178	4.56	2,609
Dublin	263	51	212	5.31	3,425
Galway	10,304	1,186	9,118	5.16	2,301
Kerry	6,157	1,195	4,962	3.88	2,545
Kildare	1,456	328	1,128	3.84	3,937
Kilkenny	2,779	322	2,457	4.85	2,295
Laois	2,443	374	2,069	4.03	2,358
Leitrim	2,625	298	2,327	4.65	3,424
Limerick	4,815	1,133	3,682	3.30	2,613
Longford	2,209	358	1,851	3.96	2,830
Louth	986	151	835	4.82	2,293
Mayo	8,446	912	7,534	4.66	2,406
Meath	3,083	649	2,434	3.67	3,850
Monaghan	3,787	701	3,086	3.58	1,697
Offaly	2,674	427	2,247	4.03	2,789
Roscommon	5,090	528	4,562	4.87	2,916
Sligo	3,207	415	2,792	4.35	2,757
Tipperary	6,026	1,095	4,931	3.80	2,559
Waterford	1,931	292	1,639	4.13	2,467
Westmeath	2,812	588	2,224	3.55	3,879
Wexford	2,685	372	2,313	4.62	2,160
Wicklow	1,391	268	1,123	3.64	3,313

Table SM I. Sample summary data at a County level for active farms.

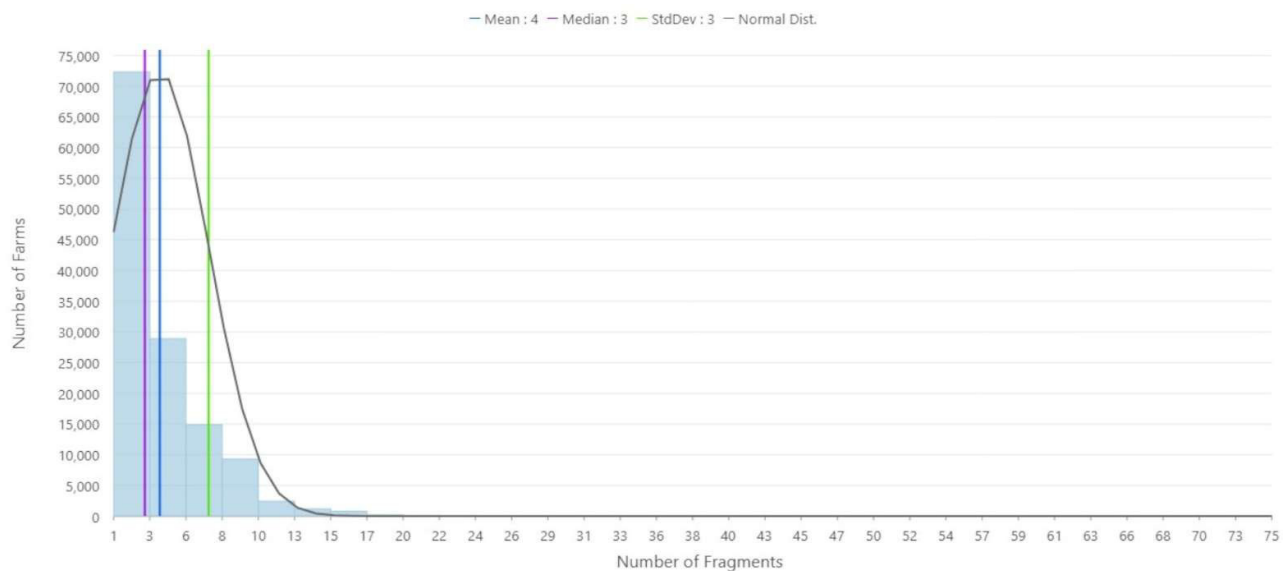


Figure SM 1. Distribution of number of fragments per farms.

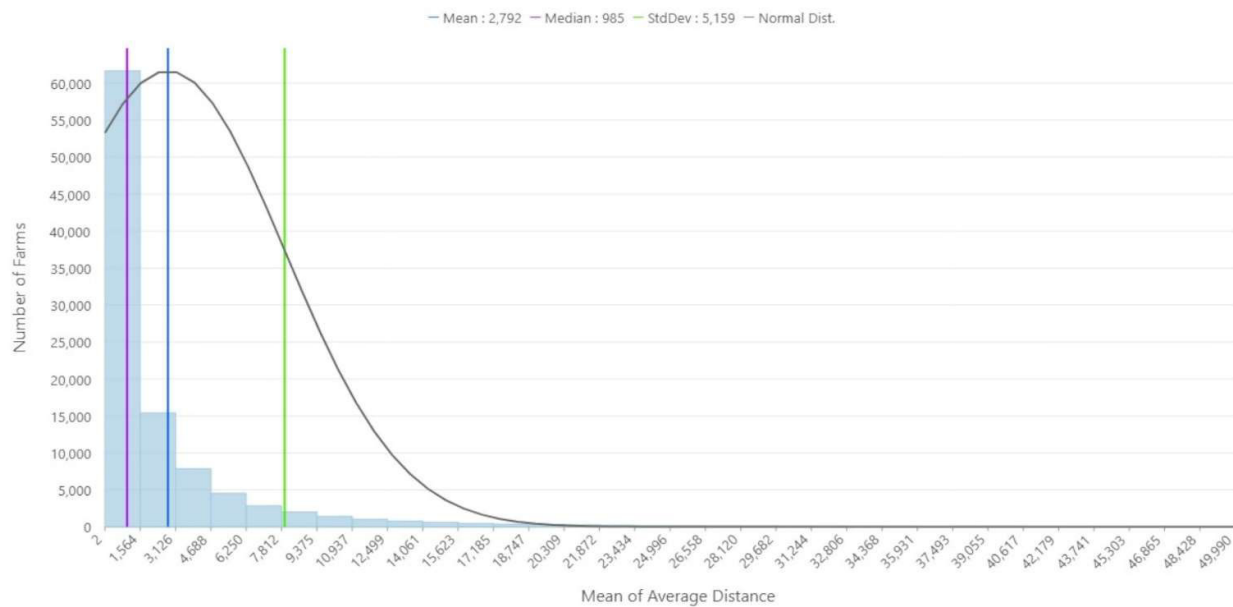


Figure SM 2. Distribution of the mean average distance of fragments per farm for all farms (in metres).

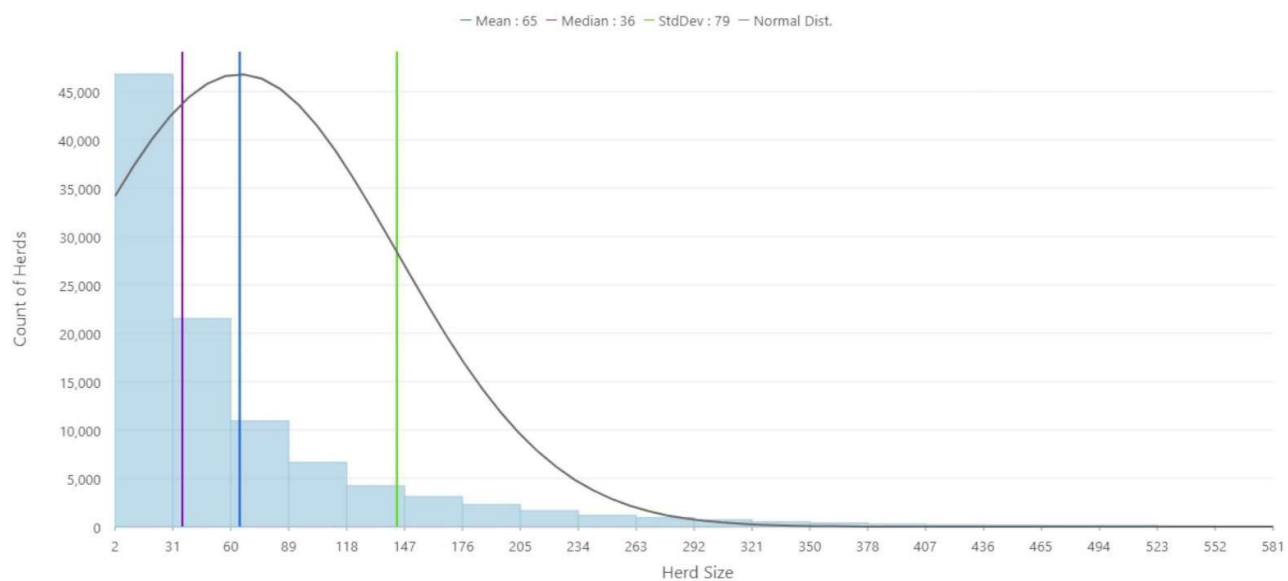


Figure SM 3. Distribution of herd sizes (with ~1% of minimum and maximum values removed (<2 cattle per herd n = 481, >581 cattle per herd n = 482)).

## Map lookup codes:

COUNTYNAME	County name
ID_10km	Hexagon ID
RAW	LPIS with simple spatial summary (multiplart).
INT	LPIS integrated to 20 metres (used for contiguity analysis)
N_Score	1 to 6 as per description. Count of instances of each scoring per herd_to_herd relationship summarised by unit area
OF_ALL	One Frag farm count - all farms
OF_ACT	One Frag farm count - active farms (bovine herds with stock 2020/2021)
M_CNT	Count of Multi-Frag farms - all farms
M_SUM	Sum of Farm Fragments of Multi-Frag farms - all farms
M_AV	Average number of Farm Fragments of Multi-Frag farms - all farms
M_AVDSUM	Sum of the average distance between same-farm fragments of Multi_Frag farms - all farms
M_AVD	Average of the average distance between same-farm fragments of Multi_Frag farms - all farms
M_SMX	Sum of the maximum distance between same-farm fragments of Multi_Frag farms - all farms
M_AMX	Average of the maximum distance between same-farm fragments of Multi_Frag farms - all farms
M_CNTA	Count of Multi-Frag farms - active farms
M_SUMA	Sum of Farm Fragments of Multi-Frag farms - active farms
M_AVA	Average number of Farm Fragments of Multi-Frag farms - active farms
M_AVDSMA	Sum of the average distance between same-farm fragments of Multi_Frag farms - active farms
M_AVDA	Average of the average distance between same-farm fragments of Multi_Frag farms - active farms
M_SMXA	Sum of the maximum distance between same-farm fragments of Multi_Frag farms - active farms
M_AMXA	Average of the maximum distance between same-farm fragments of Multi_Frag farms - active farms
CNT	Count of all farms
SUM	Sum of all fragments for all farms
AV	Average number of Farm Fragments of all farms
AVDSUM	Sum of the average distance between same-farm fragments of all farms
AVD	Average of the average distance between same-farm fragments of all farms
SMX	Sum of the maximum distance between same-farm fragments of all farms
AMX	Average of the maximum distance between same-farm fragments of all farms
L100	Count of farms with an Average of the maximum distance between same-farm fragments of less than 100 metres for all farms
L250	Count of farms with an Average of the maximum distance between same-farm fragments of less than 250 metres for all farms
L500	Count of farms with an Average of the maximum distance between same-farm fragments of less than 500 metres for all farms
L750	Count of farms with an Average of the maximum distance between same-farm fragments of less than 750 metres for all farms
L1KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 1000 metres for all farms
L1P5KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 1500 metres for all farms
L2KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 2000 metres for all farms
L2P5KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 2500 metres for all farms
L3KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 3000 metres for all farms
L3P5KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 3500 metres for all farms
L4KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 4000 metres for all farms
L4P5KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 4500 metres for all farms
L5KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 5000 metres for all farms
L6KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 6000 metres for all farms
L7KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 7000 metres for all farms
L8KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 8000 metres for all farms
L9KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 9000 metres for all farms
L10KM	Count of farms with an Average of the maximum distance between same-farm fragments of less than 10000 metres for all farms
GR5KM	Count of farms with an Average of the maximum distance between same-farm fragments of greater than 5000 metres for all farms
GR10KM	Count of farms with an Average of the maximum distance between same-farm fragments of greater than 10000 metres for all farms
CNTA	Count of all active farms (bovine herds with stock 2020/2021)
SUMA	Sum of all fragments for all active farms
AVA	Average number of Farm Fragments of all active farms
AVDSUMA	Sum of the average distance between same-farm fragments of active farms
AVDA	Average of the average distance between same-farm fragments of active farms
SMXA	Sum of the maximum distance between same-farm fragments of active farms
AMXA	Average of the maximum distance between same-farm fragments of active farms
L100A	Count of farms with an Average of the maximum distance between same-farm fragments of less than 100 metres for active farms
L250A	Count of farms with an Average of the maximum distance between same-farm fragments of less than 250 metres for active farms
L500A	Count of farms with an Average of the maximum distance between same-farm fragments of less than 500 metres for active farms
L750A	Count of farms with an Average of the maximum distance between same-farm fragments of less than 750 metres for active farms
L1KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 1000 metres for active farms
L1P5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 1500 metres for active farms
L2KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 2000 metres for active farms
L2P5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 2500 metres for active farms
L3KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 3000 metres for active farms
L3P5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 3500 metres for active farms
L4KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 4000 metres for active farms
L4P5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 4500 metres for active farms
L5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 5000 metres for active farms
L6KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 6000 metres for active farms
L7KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 7000 metres for active farms
L8KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 8000 metres for active farms
L9KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 9000 metres for active farms
L10KMA	Count of farms with an Average of the maximum distance between same-farm fragments of less than 10000 metres for active farms
GR5KMA	Count of farms with an Average of the maximum distance between same-farm fragments of greater than 5000 metres for active farms
GR10KMA	Count of farms with an Average of the maximum distance between same-farm fragments of greater than 10000 metres for active farms



PMF	M_CNTA/CNTA*100 (percentage active multi-fragment farms to all active farms)
P100	L100A/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 100 metres)
P250	L250A/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 250 metres)
P500	L500A/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 500 metres)
P750	L750A/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 750 metres)
P1km	L1KMA/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 1000 metres)
P5km	L5KMA/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 5000 metres)
P10km	L10KMA/CNTA*100 (percentage active multi-fragment farms to all active farms with average max distance of less than 10000 metres)
A_COUNT	Count of active herds
A_ARAW	Average number of neighbours between active herds and all herds from RAW LPIS
A_SRAW	Sum of neighbours between active herds and all herds from RAW LPIS
A_AINT	Average number of neighbours between active herds and all herds from INTEGRATED LPIS @ 20m
A_SINT	Sum of neighbours between active herds and all herds from INTEGRATED LPIS @ 20m
A_AN1	Average number of neighbours with N_Score of 1 of active herds and all herds
A_SN1	Sum of neighbours with N_Score of 1 of active herds and all herds
A_AN2	Average number of neighbours with N_Score of 2 of active herds and all herds
A_SN2	Sum of neighbours with N_Score of 2 of active herds and all herds
A_AN3	Average number of neighbours with N_Score of 3 of active herds and all herds
A_SN3	Sum of neighbours with N_Score of 3 of active herds and all herds
A_AN4	Average number of neighbours with N_Score of 4 of active herds and all herds
A_SN4	Sum of neighbours with N_Score of 4 of active herds and all herds
A_AN5	Average number of neighbours with N_Score of 5 of active herds and all herds
A_SN5	Sum of neighbours with N_Score of 5 of active herds and all herds
A_AN6	Average number of neighbours with N_Score of 6 of active herds and all herds
A_SN6	Sum of neighbours with N_Score of 6 of active herds and all herds
AA_COUNT	Count of active herds with an active neighbour
AA_AA2A	Count of the number of active herds to active herd neighbour fragment contacts
AA_SA2A	Sum of the number of active herds to active herd neighbour fragment contacts
AA_ARAW	Average number of neighbours between active herds and other active herds from RAW LPIS
AA_SRAW	Sum of neighbours between active herds and other active herds from RAW LPIS
AA_AINT	Average number of neighbours between active herds other active herds from INTEGRATED LPIS @ 20m
AA_SINT	Sum of neighbours between active herds and other active herds from INTEGRATED LPIS @ 20m
AA_AN1	Average number of neighbours with N_Score of 1 of active herds to active herds
AA_SN1	Sum of neighbours with N_Score of 1 of active herds to active herds
AA_AN2	Average number of neighbours with N_Score of 2 of active herds to active herds
AA_SN2	Sum of neighbours with N_Score of 2 of active herds to active herds
AA_AN3	Average number of neighbours with N_Score of 3 of active herds to active herds
AA_SN3	Sum of neighbours with N_Score of 3 of active herds to active herds
AA_AN4	Average number of neighbours with N_Score of 4 of active herds to active herds
AA_SN4	Sum of neighbours with N_Score of 4 of active herds to active herds
AA_AN5	Average number of neighbours with N_Score of 5 of active herds to active herds
AA_SN5	Sum of neighbours with N_Score of 5 of active herds to active herds
AA_AN6	Average number of neighbours with N_Score of 6 of active herds to active herds
AA_SN6	Sum of neighbours with N_Score of 6 of active herds to active herds
CCOUNT	Count of active herds
ARAW	Average number of neighbours between all herds from RAW LPIS
SRAW	Sum of neighbours between all herds from RAW LPIS
AINT	Average number of neighbours between all herds from INTEGRATED LPIS @ 20m
SINT	Sum of neighbours between all herds from INTEGRATED LPIS @ 20m
AN1	Average number of neighbours with N_Score of 1 of all herds
SN1	Sum of neighbours with N_Score of 1 of all herds
AN2	Average number of neighbours with N_Score of 2 of all herds
SN2	Sum of neighbours with N_Score of 2 of all herds
AN3	Average number of neighbours with N_Score of 3 of all herds
SN3	Sum of neighbours with N_Score of 3 of all herds
AN4	Average number of neighbours with N_Score of 4 of all herds
SN4	Sum of neighbours with N_Score of 4 of all herds
AN5	Average number of neighbours with N_Score of 5 of all herds
SN5	Sum of neighbours with N_Score of 5 of all herds
AN6	Average number of neighbours with N_Score of 6 of all herds
SN6	Sum of neighbours with N_Score of 6 of all herds
FS_C	Average fragment size per county of all herds
FSA_C	Average fragment size per county of active herds
FS_H	Average fragment size per hexagon of all herds
FSA_H	Average fragment size per hexagon of active herds