

the dorsum of hand which adheres extensor digitorum tendons together. Juncturae tendinum helps to maintain spaces and distribute force during digital extension. We found that excision of juncturae tendinum resulted in reversible dislocation of the extensor digitorum tendons upon flexion of the metacarpophalangeal joint. In other words, juncturae tendinum may prevent extensor digitorum tendon dislocation during clenched fist, a novel function which has never been reported. Similarly, a variation known as Linburg–Comstock variation is the connection between flexor pollicis longus tendon and flexor digitorum profundus tendon to the index finger. This variation can be observed in the carpal tunnel in 25% of the population. Individuals with this variation can simultaneously flex the index while actively flexing the thumb. We have classified Linburg–Comstock variation into two types according to their histological appearance including fibrous and tendinous types. The fibrous type is characterised by a common synovial sheath covering the tendons of flexor pollicis longus and flexor digitorum profundus of the index, while the tendinous type is characterised by an additional tendon running from the flexor pollicis longus to the index. Anatomical terms including "vagina tendinis musculi flexoris pollicis longi et flexoris profundi indicis" and "musculus flexoris pollicis et indicis longus" are proposed to describe the fibrous type and tendinous type of Linburg–Comstock variation, respectively. Anatomical and functional knowledge of intertendinous connections in human hand is important for anatomists and surgeons operating in the region. This study was performed in accordance with the ethical standards of the institutional research ethics committee.

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Positivity of *Lawsonia intracellularis* in seven regions of Costa Rica diagnosed by porcine fecal samples using Real time PCR

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Lawsonia intracellularis is an obligate intracellular, motile, curved, gram-negative bacterium that resides freely within the apical cytoplasm of infected intestinal enterocytes (Pusterla & Gebhart, 2013). Europe, Asia and North America have shown an individual prevalence of 24 to 47%. Herd prevalence for finishing pigs in other EU countries has been estimate to range between 88 and 100% (Pascu et al, 2015). Clinical signs: hypoproteinemia/hypoalbuminemia, thickened small intestinal loops on ultrasonographic evaluation and ruling out other causes of enteropathy and protein losses (Pusterla & Gebhart, 2013). The losses due to enteropathy are estimate by at least US \$ 1.53 per affected animal (Moller, 2006). In Costa Rica, we reported two cases by histopathological findings: severe chronic active linfo-histio plasmocitic with eosinophils ileo-tiflitis with peyers patches hyperplasia. Real time qPCR confirmed *L. intracellularis*. The Cts for the samples were 24 and 20 cycles.

To determine the positivity of *Lawsonia intracellularis* in seven regions in Costa Rica by fecal samples using Real time PCR. In august 2018, 391 fecal samples were digitally extract from pigs between 12 to 22 weeks of age, a total of 18 farms from seven regions in Costa Rica and 22 samples per farm were taken. DNA extraction was performed in each sample by the commercial kit. Specific probe and primers used the 16S ribosomal DNA gene as a target. Real-time quantitative PCR was carry out and cycle thresholds (Cts) for each sample were determined. Positivity found in Costa Rica was 94,44% (17/18). Positivity results per region: San José 62.5% (25/40), Limón 48.24% (41/85), Alajuela 31.14% (39/111), Heredia 31.82% (7/22), Puntarenas 17.47% (11/63), Guanacaste 90.00% (18/20) y Cartago 46.00% (23/50). *Lawsonia intracellularis* is an endemic pathogen and real-time quantitative PCR represents a valuable technique for the specific diagnosis at a farm level.