Nowadays, there is ever increasing interests regarding with the nozzle usage in spinning systems and also winding process. In this study, an air nozzle was attached on to the sirospun spinning system and the system was called as siro-jet. Sirospun is a spinning system combining spinning and doubling in one operation and a yarn like a two fold is produced. The principle of the siro-jet system is based on the placement of the nozzle at the exit of drafting unit on sirospun spinning system and pressurized air was fed into the nozzle by the compressor during the spinning. In literature, air nozzle application in this manner is not common and hence the system is very less known. For that reason, siro-jet and siropun yarns were produced with different fibre types, material qualities and yarn counts, and the properties of the yarns were compared. At the end of the study, it was determined that siro-jet spinning system truly improves the yarn hairiness in comparison to sirospun spinning system. Even, the siro-jet yarns are less hairy after winding process. Interestingly, hairiness results of siro-jet and sirospun yarns produced with short, non-uniform fibres showed that siro-jet spinning system allows working with low cost raw materials while maintaining yarn quality. Therefore, siro-jet can be considered as an innovative spinning system regarding with less hairy yarn production opportunity.